ORDER NO. AVS9812154C8

Service Manual

Video Imager

WE-MV180A

SPECIFICATIONS

● CAMERA UNIT

Pick-up Device :	752 (H) x 582 (V) pixels, 1/3" Interline Transfer CCD
Scanning System :	2:1 Interlace
Scanning :	625 lines/50 fields/25 frames
Horizontal :	15.625 kHz
Vertical :	50 Hz
Video Output :	1.0 V[p-p] PAL composite, 75 Ω
S-Video Output :	Y: 1.0 V[p-p] 75Ω
	C: 0.3 V[p-p] (Burst Level), 75 Ω
Horizontal Resolution :	450 lines (at center)
Signal-to-Noise Ratio :	48 dB
White Balance :	Automatic
Shutter Speed :	1/120 Flickerless

● Lens Unit

Focal Length :	5.4 - 64.8 mm (12X)
Maximum Relative Aperture :	F1.8 - F2.7
Zoom :	Electronic power
Focus :	Auto Focus

● Liquid Crystal Display Unit

Size :	2.9 inch
Brightness :	Manually adjustable
Resolution :	480 (H) x 130 (V) pixels

Panasonic

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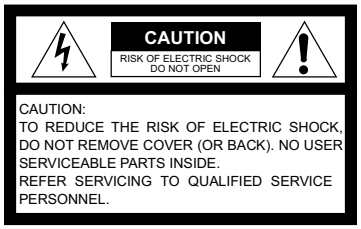
⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION:
TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.

This symbol alerts the user that important literature concerning the operation and maintenance of this has been included. Therefore, it should be read carefully in order to avoid any problems.

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are indicated by the "⚠" mark on the schematic diagram and the replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent X-radiation, shock, fire, or other hazards. Do not modify the original design without permission of manufacture.

Video Input :	1.0 V[p-p] composite/75 Ω, RCA standard jack (X2)
S-Video Input :	Y: 1.0 V[p-p]/75 Ω, C: 0.3 V[p-p] (Burst Level)/75 Ω, Mini DIN 4-pin connector (X2) (Direct out via Input Selector)
Audio Input :	RCA standard jack (X2)
Microphone Input :	–65 dB/600 Ω, phone jack, unbalanced
Video Output :	1.0 V[p-p] composite/75 Ω, RCA standard jack (X1)
S-Video Output :	Y: 1.0 V[p-p]/75 Ω, C: 0.3 V[p-p] (Burst Level)/75 Ω, Mini DIN 4-pin connector (X1)
Audio Output :	–20 dBV (1 V = 0 dBV), RCA standard jack
Fluorescent Lamp :	Type F6T5/D (6 W, 12 V) only
Ambient Operating Temperature :	+5°C - +35°C (41°F - 95°F)
Ambient Operating Humidity :	Less than 80 %
Power Source :	220 - 240 V AC, 50 Hz.
Power Consumption :	Approx. 31 W
Dimension :	400 (W) x 688 (H) x 365 (D) mm (15-3/4" (W) x 27-1/16" (H) x 14-3/8" (D))
Weight :	7.9 kg (17.4 lbs.)

Weight and dimensions indicated above are approximate.
Specifications are subject to change without notice.

ACCESSORIES

AC Power Cable 1
Button Address Label 1

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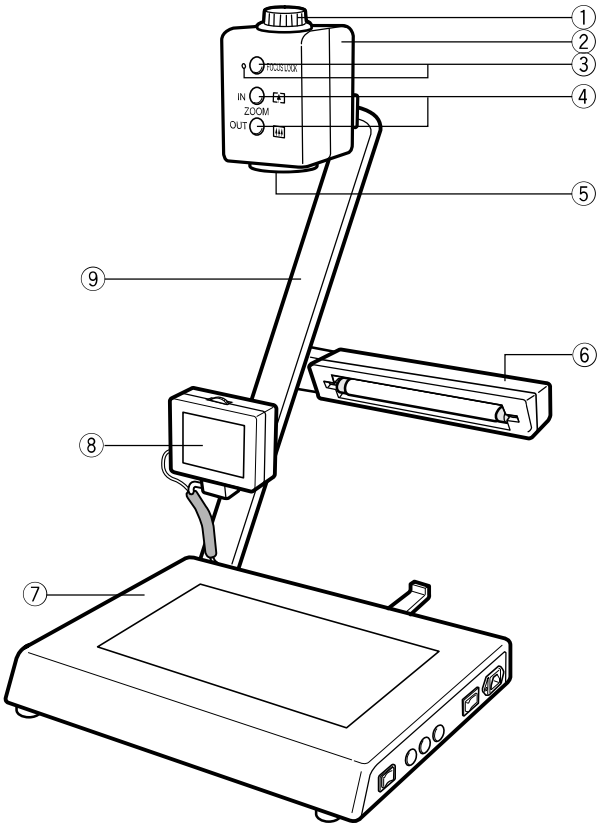
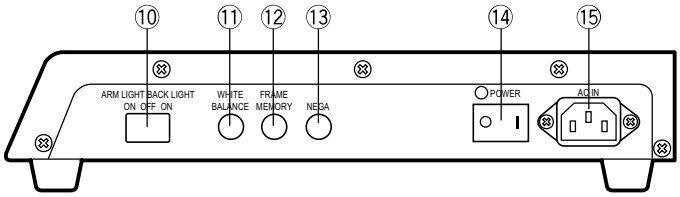
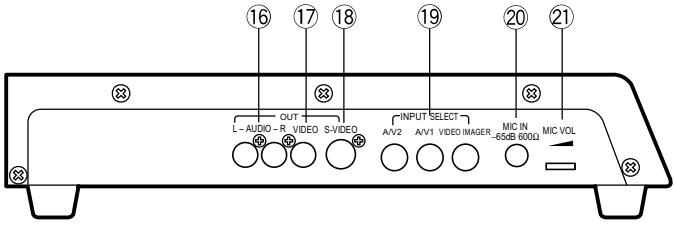
MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS



■ Right Side View



■ Left Side View



①**Camera Rotation Dial**
This dial is used to rotate the camera inside the camera unit.

② **Camera Unit**
Rotate to the desired position to shoot the object.

③ **Focus Lock Button (FOCUS LOCK)**
This button is used to lock the lens focus of the equipped camera. The LED indicator will light to indicate the Lock mode is selected.
While the LED indicator is lit, the auto focus function is disabled. To release this mode, press the button again.

④ **Zoom Buttons (ZOOM, IN/OUT)**
These buttons are used to zoom in or out from the object.

⑤ **Lens**
The close-up lens and lens cap are attached to the lens. When you use this appliance, detach the lens cap. When the distance between the lens and the object to be shot is more than 2 meters (6.6 ft), detach the close-up lens by rotating it counterclockwise.

⑥ **Arm Light**
This light is used to illuminate objects in a dark environment.

⑦ **Stage (with back light)**
Place objects here.
The stage is lit by turning the backlight on. Place transparencies or film here to project them on a video monitor.

⑧ **LCD Monitor**
The visual image of the document on the stage is projected on this liquid crystal display monitor.

- **Brightness Control (BRIGHT, BRT/DARK)**
This dial is used to control the brightness of the monitor. Rotate the dial to the left to make the image brighter or to the right to make it darker.

⑨ **Camera Arm**

⑩ **Light Selector (ARM LIGHT ON, OFF, BACK LIGHT ON)**
This selector is used to turn the arm light or the backlight on and off.

⑪ **White Balance Button (WHITE BALANCE)**
This button is used to set the white balance when shooting a transparency or a film with the arm light or backlight.
Press this button. It takes about two seconds for the auto white balance function to adjust the white balance properly.
Note:
Press this button to shoot negative film, or positive film after shooting negative film.

⑫ **Frame Memory Button (FRAME MEMORY)**
This button is used to memorize the document on the stage (frame memory function). Before changing the document on the stage, press this button. The visual image of the document is memorized and projected on the screen. After changing the document, press this button again. The visual image of the new document on the stage is projected on the screen.
Notes:
- The frame memory function works only when the input selector is set to VIDEO IMAGER.

⑬ **Nega Button (NEGA)**
This button is used to project a positive image of negative film. Place the negative film on the stage and zoom to proper size. Then press this button, followed by the white balance button.

⑭ **Power Switch (POWER)**
When turning the power on, the POWER indicator will light.

⑮ **Power Cord Connector (AC IN)**

⑯ **Audio Output Connectors (AUDIO OUT, L/R)**
An audio signal from an external source that is selected with the input selector and the microphone audio are provided to the AUDIO OUT L/R connectors.
Notes:
- This appliance does not have a built-in power amplifier unit. Do not connect speakers to these connectors directly.
- The audio supplied to the MIC IN connector is always audible regardless of the position of the input selector.

⑰ **Composite Video Output Connector (VIDEO OUT)**
This connector supplies the 1.0V[p-p]/75 Ω composite video signal to the video monitor.

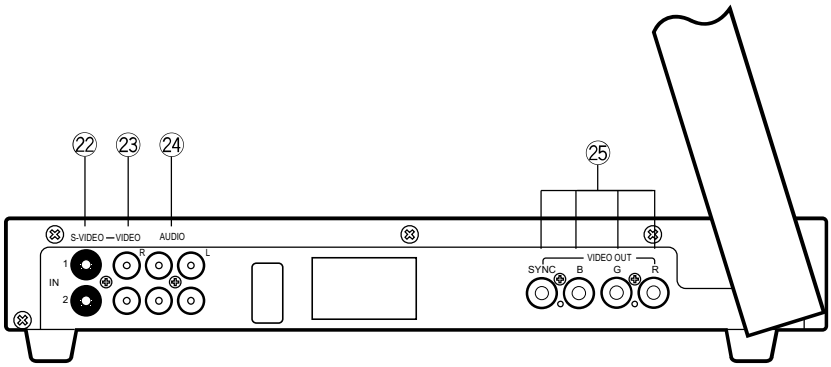
⑱ **S-Video Output Connector (S-VIDEO OUT)**
This connector supplies the S-Video signal to the video monitor.

⑲ **Input Selector (INPUT SELECT: VIDEO IMAGER, A/V1, A/V2)**
This selector is used to select the audio/video signal from three sources.
When VIDEO IMAGER is selected, the camera signal of the WE-MV180A is provided to the video output connectors.
When both A/V1 and A/V2 are selected, the external audio/video signal is provided to the AUDIO OUT connectors (L/R), the S-VIDEO OUT connector, and the VIDEO OUT connector.

⑳ **Microphone Input Connector (MIC IN −65 dB 600 Ω)**
This connector is used to connect the microphone.
Note:
Make sure that the specified microphone (−65 dB, 600 Ω) is used.

㉑ **Microphone Volume (MIC VOL)**
This dial is used to adjust the microphone volume.

■ Rear View



㉒ **S-Video Input Connectors (S-VIDEO IN 1, 2)**
The S-Video signal from an external source is supplied to these connectors.

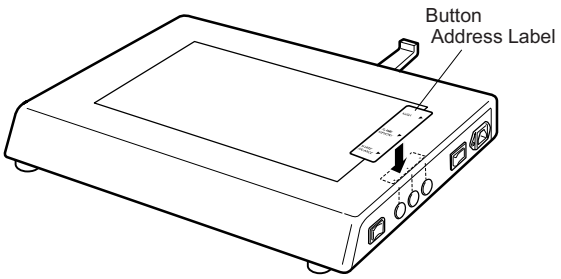
㉓ **Composite Video Input Connectors (VIDEO IN 1, 2)**
A composite video signal from the external source is supplied to these connectors.
Note:
When both the S-video input connector and the composite video input connector are used at the same time, only the S-video connector is selected for the input source.

㉔ **Audio Input Connectors (AUDIO IN R/L 1, 2)**
The audio signal from the external source is supplied to these connectors.

㉕ **RGB Video Output Connectors (SYNC/R/G/B)**
These connectors are used for connection to a monitor or projector provided with an RGB input connector.
Cautions:
- To prevent signal loss, use a BNC cable that is no longer than 3 meters (not supplied). If the BNC cable is longer than 3m, use a cable compensator.
- Connect the SYNC connector to a monitor that is provided with an RGB connector.

■ Button Address Label (supplied accessory)

To help locate the WHITE BALANCE, NEGA and FRAME MEMORY buttons from the top of the stage, apply the button address label on the stage as shown below.



ADJUSTMENT PROCEDURE

1. Test Equipment Required

- The following Test Equipments are required for adjustment of the Video Imager WE-MV180A.

- Video Signal Generator (S-Video signal, Composite Video signal, Crosshatch signal, Stairstep signal and etc.)
- Oscilloscope
- Frequency Counter
- Digital Voltmeter
- Vectorscope
- Underscanned Colour Video Monitor
- S-Video Cable
- Composite Video Cable
- Ceramic Screwdriver
- Colour Chip Chart (Part Number: YWV2100RB98)
- Make an Extension Cable as follows:
  Cut a regular S-Video Cable as short as possible.
  Solder three Alligator Clips (one for Y signal, one for C signal and the other one for both Ground) as shown in Fig. 1-1.

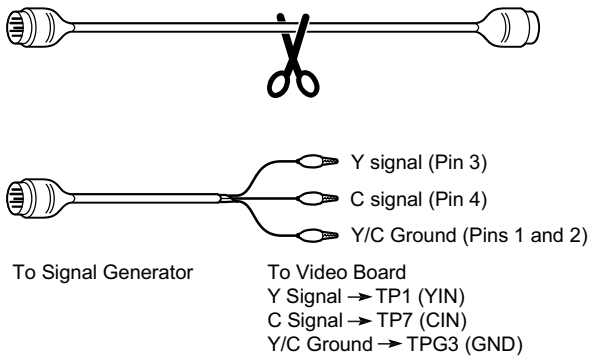

Y signal (Pin 3)
C signal (Pin 4)
Y/C Ground (Pins 1 and 2)
To Signal Generator
To Video Board
Y Signal → TP1 (YIN)
C Signal → TP7 (CIN)
Y/C Ground → TPG3 (GND)

Fig. 1-1

2. Disassembling Procedure for Adjustment

- Referring to Fig. 2-1, remove two screws that secure the LCD Monitor Ass'y.
  Note : Do not make any damage to the LCD Monitor Ass'y.

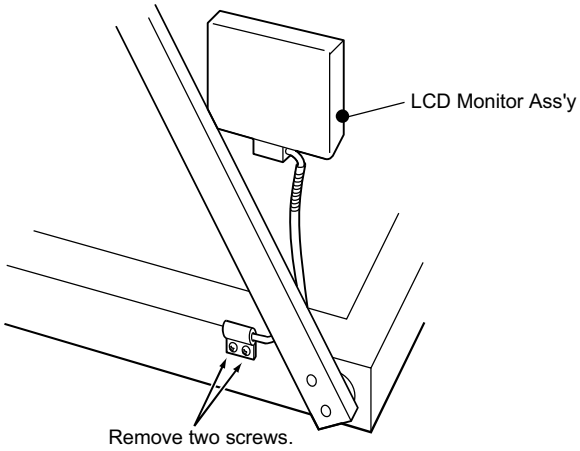


Fig. 2-1

- Referring to Fig. 2-2, remove fourteen screws that secure the Upper Cover and open the Upper Cover Ass'y.
  Note : Use some cushion between the Bottom Cover Ass'y and Upper Cover Ass'y free from damage.

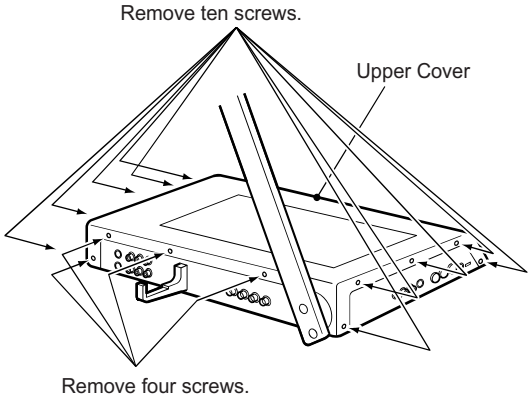


Fig. 2-2

3. Connection and Reference Levels for Adjustment

3.1. Connection

- The Fig. 3-1 shows the connection diagram for the adjustment procedure.

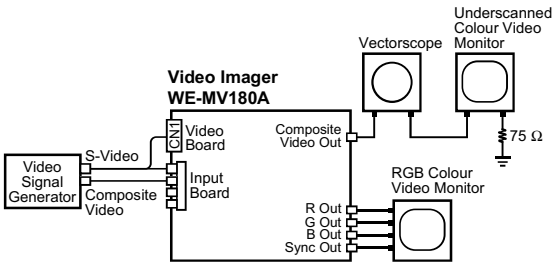


Fig. 3-1

- Connect the Underscanned Colour Video Monitor to the Composite Video Output Connector of the WE-MV180A through the Vectorscope using the coaxial cables.
- Terminate the input terminal of the Underscanned Colour Video Monitor with 75 Ω.
- Connect the RGB Video Output Connectors to the R, G, B and Sync Input Terminals of the RGB Colour Video Monitor.
- Connect the S-Video Signal from the Video Signal Generator to the S-Video Input Connector 1 or S-Video Input Connector 2.
- Connect the probe of the Digital Voltmeter, Oscilloscope or Frequency Counter at the desired Test Point in each adjustment step.
- The adjustments should be done more than three minutes warm-up.

3.2. Reference Levels Confirmation for Adjustment

■ S-Video Signal

- Supply 100% Colour Bar signal to the S-Video Input Connector 1.
- Select the A/V 1 mode by the Input Selector.
- Connect the Oscilloscope to TP14 on the Video Board and note the signal level as reference (Vy) as shown in Fig. 3-2.

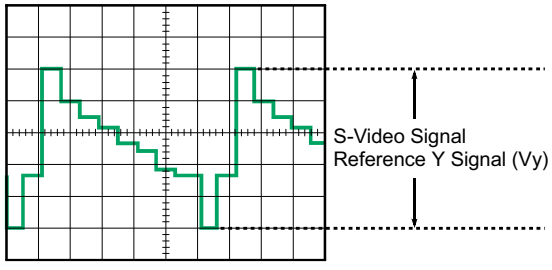


Fig. 3-2

- Change the connection of the Oscilloscope to TP15 on the Video Board and note the signal level as reference (Vc) as shown in Fig. 3-3.

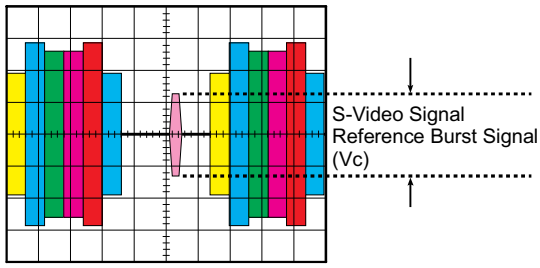


Fig. 3-3

■ Composite Video Signal

- Supply 100% Colour Bar signal to the Composite Video Input Connector 1.
- Connect the Oscilloscope to TP16 on the Video Board and note both Luminance signal level (Vycm) and Burst signal level (Vccm) as reference as shown in Fig. 3-4.

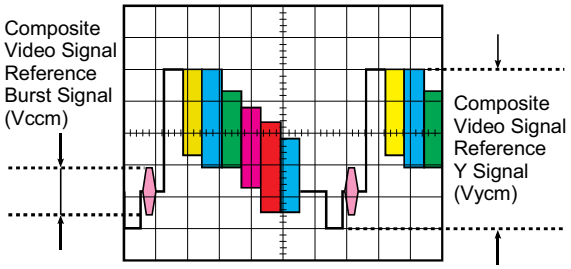


Fig. 3-4

4. Adjustment Procedure

- Refer to the Location of the Test Points and Adjusting Controls on the page 17.
- All adjustments should be made with the Ceramic Screwdriver.

■ Power Board

(1) +12V Adjustment

Test Point:	**Pin 1 of CN14 (+12V)**	**Power Board**
	Pin 3 of CN14 (GND)	**Power Board**
Adjust:	**VR1 (+12V)**	**Power Board**

- Connect the Digital Voltmeter to the pins 1 and 3 of CN14.
- Adjust VR1 to obtain between +12.1 and +12.2 V DC.

■ Video Board

- Before adjusting the Video Board set the Volume Controls as follows:

  VR1 (SYOUT).....Mechanical Center
  VR2 (NEGWAJ).....Mechanical Center
  VR3 (CG).....Fully Clockwise
  VR6 (HSWAJ) .....Mechanical Center
  VR7 (LLMT).....Mechanical Center
  VR9 (NEGOF) .....Mechanical Center
  VR10 (YG).....Mechanical Center

(2) Clamp Width Adjustment

Test Point: **TP1 (YIN)** **Video Board**
TP4 (CLP) **Video Board**
Adjust: **VR4 (CLPWAJ)** **Video Board**

- Disconnect the Connector of the Camera Unit from CN1 on the Video Board.
- Supply 100% Colour Bar signal from S-Video signal output of the Video Signal Generator to the Test Points TP1 (YIN) and TP7 (CIN) on the Video Board using an Extension Cable.
- Select the Video Imager mode by the Input Selector.
- Connect CH1 of the Oscilloscope to TP1 and CH2 to TP4.
- Trigger the Oscilloscope at TP1.
- Adjust VR4 so that the falling edge of the Clamp Pulse from the falling edge of the Luminance signal becomes 1.8 ± 0.2 µs as shown in Fig. 4-1.

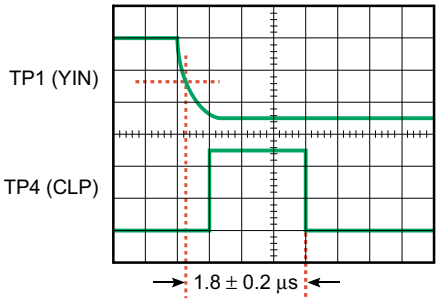


Fig. 4-1

(3) Sync Protection 1 Adjustment

Test Point: **TP1 (YIN)** **Video Board**
TP5 (HSW) **Video Board**
Adjust: **VR6 (HSWAJ)** **Video Board**

- Connect CH1 of the Oscilloscope to TP1 and CH2 to TP5.
- Trigger the Oscilloscope at TP1.
- Adjust VR6 so that the falling edge of the HSW signal from the falling edge of the Luminance signal becomes 11 ± 0.3 µs as shown in Fig. 4-2.

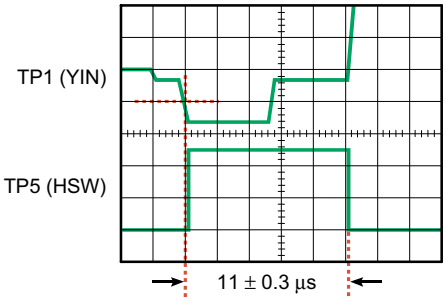


Fig. 4-2

(4) Sync Protection 2 Adjustment

Test Point: **TP1 (YIN)** **Video Board**
TP6 (NEGW) **Video Board**
Adjust: **VR2 (NEGWAJ)** **Video Board**

- Connect CH1 of the Oscilloscope to TP1 and CH2 to TP6.
- Trigger the Oscilloscope at TP1.
- Adjust VR2 so that the falling edge of the Luminance signal from the falling edge of the NEGW signal becomes 2.0 ± 0.3 µs as shown in Fig. 4-3.

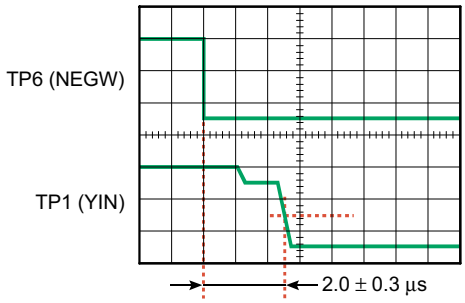


Fig. 4-3

(5) Nega Mode Pedestal Level Adjustment

Test Point: **TP1 (YIN)** **Video Board**
TP2 (YOUT) **Video Board**
Adjust: **VR7 (LLMT)** **Video Board**

- Supply the Colour Bar signal from the Video Signal Generator.
- Connect the Oscilloscope to TP2.
- Trigger the Oscilloscope at TP1.
- Set the Oscilloscope to AC mode.
- Select the Negative mode by the Nega Button.
- Adjust VR7 so that the Negative Pedestal level becomes coincidence with the pedestal level as shown in Fig. 4-4.

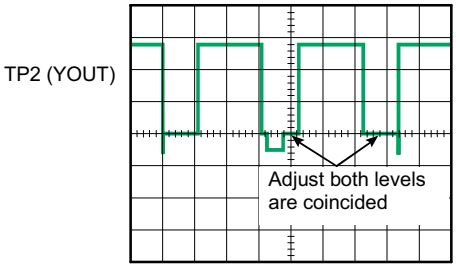


Fig. 4-4

(6) Nega Mode White Level Adjustment

Test Point:	**TP1 (YIN)**	**Video Board**
	TP2 (YOUT)	**Video Board**
Adjust:	**VR9 (NEGOF)**	**Video Board**

- Connect the Oscilloscope to TP2.
- Trigger the Oscilloscope at TP1.
- Set the Oscilloscope to DC mode.
- Adjust VR9 so that the White signal level becomes 3.2 ± 0.1 V DC as shown in Fig. 4-5.

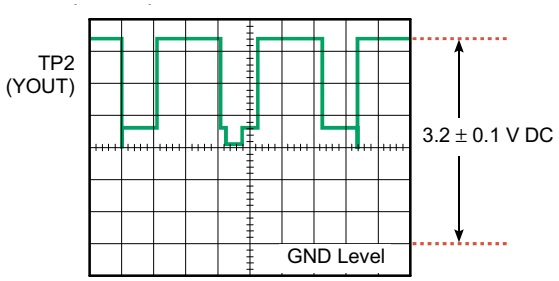


Fig. 4-5

(7) Composite Video Output Level Adjustment

Test Point:	**TP13 (CVOUT)**	**Video Board**
	TP21 (SVYOUT)	**Video Board**
Adjust:	**VR13 (VBSYG)**	**Video Board**
	VR5 (VBSG)	**Video Board**

- Connect the Oscilloscope to TP13.
- Trigger the Oscilloscope at TP21.
- Adjust VR13 so that the Luminance signal level becomes 2 x (Vy) ± 0.1 Vp-p as shown in Fig. 4-6.
- Adjust VR5 so that the Burst signal level becomes 2 x (Vc) ± 30 mVp-p as shown in Fig. 4-6.

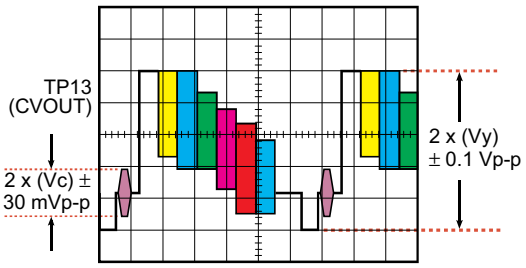


Fig. 4-6

(8) Y/C Separator Adjustment

Test Point:	**TP21 (SVYOUT)**	**Video Board**
	TP22 (SVCOUT)	**Video Board**
Adjust:	**VR10 (YG)**	**Video Board**
	VR3 (CG)	**Video Board**

- Supply 100% Colour Bar signal from Composite signal output of the Video Signal Generator to the Composite Video Input Connector 1.
- Select the Video A/V1 mode by the Input Selector.
- Connect the Oscilloscope to TP21.
- Trigger the Oscilloscope at TP21.
- Adjust VR10 so that the Luminance signal level becomes 2 x (Vy) ± 0.1 Vp-p as shown in Fig. 4-7.

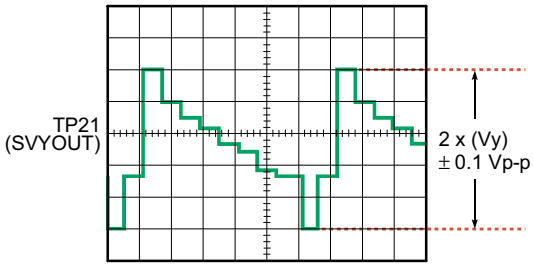


Fig. 4-7

- Change the connection of the Oscilloscope to TP22.
- Adjust VR3 so that the Burst signal level becomes 2 x (Vc) ± 30 mVp-p as shown in Fig. 4-8.

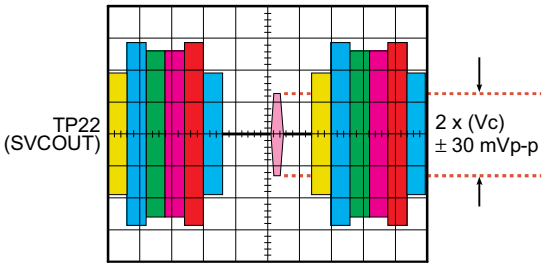


Fig. 4-8

(9) Camera Through Output Level Adjustment

Test Point: **TP1 (YIN)** **Video Board**
TP21 (SVYOUT) **Video Board**
TP22 (SVCOUT) **Video Board**
Adjust: **VR1 (SYOUT)** **Video Board**
VR14 (SCOUT) **Video Board**

- Disconnect the Connector of the Camera Unit from CN1 on the Video Board.
- Supply 100% Colour Bar signal from S-Video signal output of the Video Signal Generator to the Test Points TP1 (YIN) and TP7 (CIN) on the Video Board using an Extension Cable.
- Select the Video Imager mode by the Input Selector.
- Connect the Oscilloscope to TP21.
- Trigger the Oscilloscope at TP1.
- Adjust VR1 so that the Luminance signal level becomes 2.6 x (Vy) $^{+0}_{-0.1}$ Vp-p as shown in Fig. 4-9.

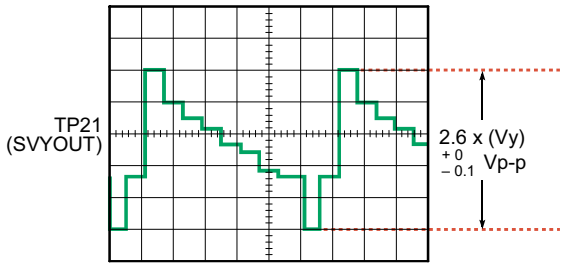


Fig. 4-9

- Change the connection of the Oscilloscope to TP22.
- Adjust VR14 so that the Burst signal level becomes 2.2 x (Vc) ± 30 mVp-p as shown in Fig. 4-10.

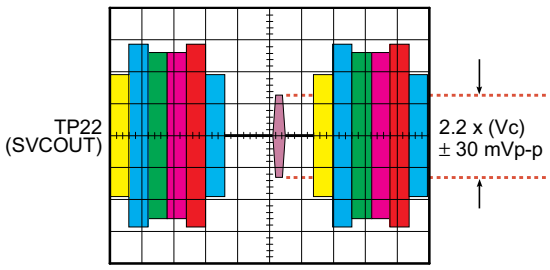


Fig. 4-10

(10) Hue Adjustment

Adjust: **VR8 (NEGAHUE)** **Video Board**
Observe: **Composite Video Output Connector**

- Supply 75% Colour Bar signal from S-Video signal output of the Video Signal Generator to the Test Points TP1 (YIN) and TP7 (CIN) on the Video Board using an Extension Cable.
- Connect the Vectorscope to the Composite Video Output Connector.
- Select the Negative mode by the Nega Button.
- Set the Gain Control of the Vectorscope to proper gain.
- Adjust VR8 so that the Blue vector positions its correct position as shown in Fig. 4-11.

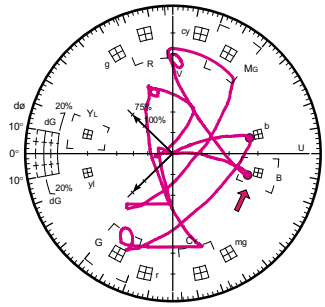


Fig. 4-11

- Confirm the Blue vector is not changed between the Positive mode and Negative mode.

■ Frame Memory Section

- Before adjusting the Frame Memory Section of the Video Board set the Volume Controls as follows:
  VR2 (CADOF) .....Fully Clockwise
  VR4 (YDAGA) .....Mechanical Center
  VR8 (CADGA) . . . . . .Fully Clockwise

(11) Chroma D/A Offset Coarse Adjustment

Test Point: **TP307 (CADIN)** **Video Board**
Adjust: **VR303 (CADOF)** **Video Board**

- Connect the Camera Unit to CN1 on the Video Board.
- Connect the Oscilloscope to TP307.
- Trigger the Oscilloscope at TP309.
- Select the Video Imager mode by the Input Selector.
- Adjust VR303 so that DC level becomes 2.8 ± 0.1 V DC as shown in Fig. 4-12.

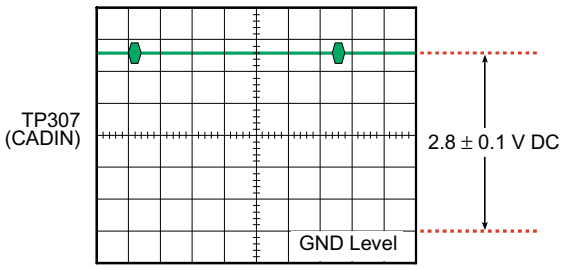


Fig. 4-12

(12) Burst Gate Pulse Width Adjustment

Test Point: **TP301 (BGPP)** **Video Board**
TP312 (CSIG) **Video Board**
Adjust: **VR301 (BGPW)** **Video Board**

- Connect CH1 of the Oscilloscope to TP312 and CH2 to TP301.
- Trigger the Oscilloscope at TP309.

- Adjust VR301 so that the rising edge of the Burst Gate Pulse from the end of the Burst signal becomes 200 ± 100 ns as shown in Fig. 4-13.

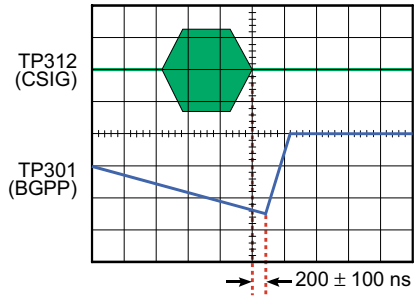


Fig. 4-13

(13) VCXO Adjustment

Test Point:	**TP302 (APC)**	**Video Board**
	TP313 (DACSIG)	**Video Board**
Adjust:	**VC301 (VCXO)**	**Video Board**

- Connect CH1 of the Oscilloscope to TP313 and CH2 to TP302.
- Trigger the Oscilloscope at TP309.
- Adjust VC301 so that the Burst signal becomes stable at TP313 and center position of lock limitation, the DC voltage at TP302 should be 2.8 – 3.0 V DC as shown in Fig. 4-14.

Note: Use Ceramic Screwdriver.

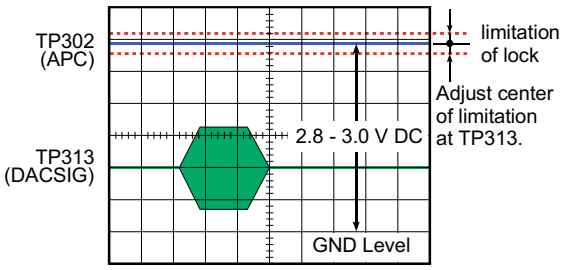


Fig. 4-14

(14) Chroma D/A Level Adjustment

Test Point:	**TP313 (DACSIG)**	**Video Board**
	TP314 (XCDASIG)	**Video Board**
Adjust:	**VR307 (CDAGA)**	**Video Board**

- Disconnect the Connector of the Camera Unit from CN1 on the Video Board.
- Supply 100% Colour Bar signal from S-Video signal output of the Video Signal Generator to the Test Points TP1 (YIN) and TP7 (CIN) on the Video Board using an Extension Cable.
- Set the Positive mode by the Nega Button.
- Connect CH1 of the Oscilloscope to TP314 and CH2 to TP313.
- Trigger the Oscilloscope at TP309.
- Adjust VR307 so that the both Burst signals at TP313 and TP314 become same amplitudes (± 5%) as shown in Fig. 4-15.

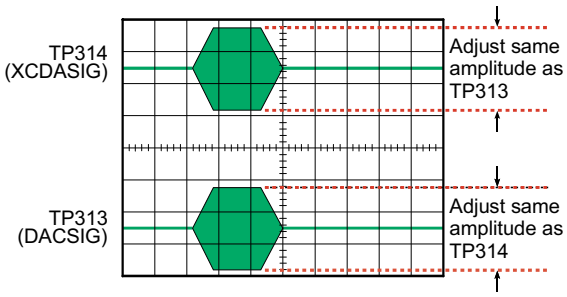


Fig. 4-15

(15) Chroma A/D Offset Adjustment

Test Point:	**TP313 (DACSIG)**	**Video Board**
Adjust:	**VR303 (CADOF)**	**Video Board**

- Connect the Oscilloscope to TP313.
- Trigger the Oscilloscope at TP309.
- Select the Negative mode by the Nega Button.
- Adjust VR303 so that the Burst signal becomes symmetry as shown in Fig. 4-16.

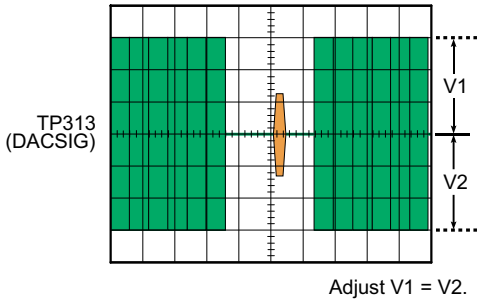


Fig. 4-16

(16) Chroma A/D Level Adjustment

Test Point:	**TP311 (CMSIG)**	**Video Board**
	TP312 (CSIG)	**Video Board**
	TP313 (DACSIG)	**Video Board**
Adjust:	**VR304 (CADGA)**	**Video Board**

- Connect CH1 of the Oscilloscope to TP312 and CH2 to TP311.
- Trigger the Oscilloscope at TP309.
- Set the Positive mode by the Nega Button.
- Adjust VR8 so that the both Burst signals at TP311 and TP312 become same amplitudes (± 5%) as shown in Fig. 4-17.

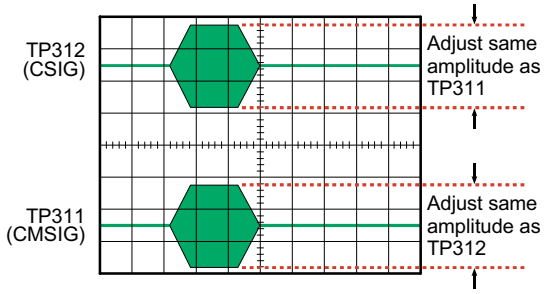


Fig. 4-17

- Change the connection of the Oscilloscope to TP313.
- Select the Negative mode by the Nega Button.
- Confirm that the symmetry of the Burst signal again.
  If not symmetry, return to the step **(15) Chroma A/D Offset Adjustment** and repeat adjust from **(15) Chroma A/D Offset Adjustment** and **(16) Chroma A/D Level Adjustment** until satisfactory.

(17) Luminance D/A Level Adjustment

Test Point:	**TP308 (DSIG)**	**Video Board**
	TP309 (YSIG)	**Video Board**
Adjust:	**VR305 (YDAGA)**	**Video Board**

- Connect CH1 of the Oscilloscope to TP308 and CH2 to TP309.
- Trigger the Oscilloscope at TP309.
- Set the vertical position of the Oscilloscope so that the signals at TP308 and TP309 become overlapped.
- Adjust VR305 so that the both Luminance signals become coincide each other as shown in Fig. 4-18.

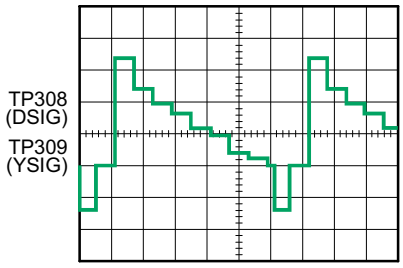


Fig. 4-18

(18) Chroma Reverse Offset Adjustment

Test Point:	**TP311 (CMSIG)**	**Video Board**
Adjust:	**VR308 (XCDAOF)**	**Video Board**

- Connect the Oscilloscope to TP311.
- Trigger the Oscilloscope at TP309.
- Take the freeze picture by the Frame Memory Button.
- Adjust VR308 so that DC level at TP311 becomes stable as shown in Fig. 4-19.

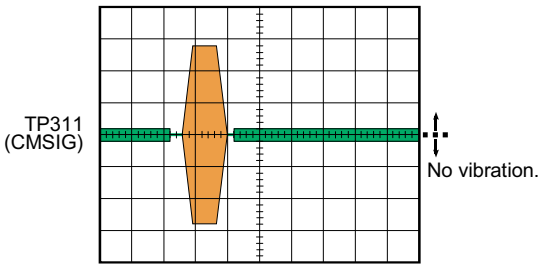


Fig. 4-19

■ RGB Board

- Before adjusting the RGB Board set the Volume Controls as follows:
  VR1 (HUE) . . . . . .Mechanical Center
  VR3 (APLG) . . . . . .Mechanical Center
  VR4 (CGA) . . . . . .Mechanical Center

(19) Subcarrier Frequency Adjustment

Test Point:	**TP1 (SCOUT)**	**RGB Board**
Adjust:	**VR2 (SC)**	**RGB Board**

- Disconnect the Connector of the Camera Unit from CN1 on the Video Board.
- Disconnect all input signals from the Video Input Connectors.
- Select the A/V 1 mode by the Input Selector.
- Connect the Frequency Counter to TP1.
- Adjust VR2 to obtain 4.433619 MHz ± 50 Hz.

(20) Delay Line Bias Adjustment

Test Point:	**TP4 (DLABIAS)**	**RGB Board**
Adjust:	**VR5 (DLY)**	**RGB Board**

- Disconnect the Connector of the Camera Unit from CN1 on the Video Board.
- Supply 100% Colour Bar signal from S-Video signal output of the Video Signal Generator to the Test Points TP1 (YIN) and TP7 (CIN) on the Video Board using an Extension Cable.
- Select the Video Imager mode by the Input Selector.
- Connect the Digital Voltmeter to TP4.
- Turn L2 to fully clockwise.
- Adjust VR5 to obtain 3.0 ± 0.1 V DC.
  An adjustment should be made with the Positive mode and Negative mode by pressing the Nega Button alternately.

(21) Luminance Gain Adjustment

Test Point: **TP5 (APL)** **RGB Board**
Adjust: **VR3 (APLG)** **RGB Board**

- Connect the Digital Voltmeter to TP5.
- Set the Positive mode by pressing the Nega Button.
- Adjust VR3 to obtain 2.0 ± 0.1 V DC.
  An adjustment should be made with the Positive mode and Negative mode by pressing the Nega Button alternately.

(22) Hue Level Adjustment

Test Point: **TP3 (HUELVL)** **RGB Board**
Adjust: **VR1 (HUE)** **RGB Board**

- Connect the Video Monitor to the Composite Video Output Connector.
- Connect the RGB Video Monitor to the RGB Video Output Connectors.
- Set the Positive mode by pressing the Nega Button.
- Adjust VR1 so that the colour of the RGB Video Monitor becomes same colour of the Composite Video Monitor.
  An adjustment should be made with the Positive mode and Negative mode by pressing the Nega Button alternately.

(23) Chroma Gain Adjustment

Test Point: **TP8 (R)** **RGB Board**
TP9 (G) **RGB Board**
TP10 (B) **RGB Board**
Adjust: **VR4 (CGA)** **RGB Board**

- Connect CH1 of the Oscilloscope to TP8, CH2 to TP9 and CH3 to TP10.
- Trigger the Oscilloscope at TP7.
- Trace the Oscilloscope by 2H.
- Set the Positive mode by pressing the Nega Button.
- Adjust VR4 so that the Blue signal is stable as shown in Fig. 4-20.
  An adjustment should be made the Positive mode and Negative mode by pressing the Nega Button alternately.

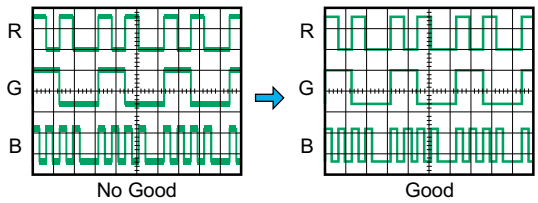


Fig. 4-20

5. CHECK OUT PROCEDURE

- In this section describe the Camera Unit and the LCD Monitor Ass'y check out procedure for easy to find out defective point.

■ Check for the LCD Monitor Ass'y

- Referring to Fig. 5-1, remove four screws that secure the LCD Rear Cover and remove the LCD Rear Cover.

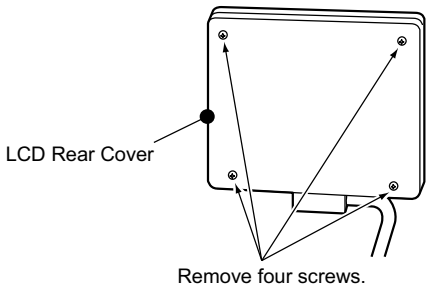


Fig. 5-1

- Connect the Digital Voltmeter between Red wire and White wire as shown in Fig. 5-2.

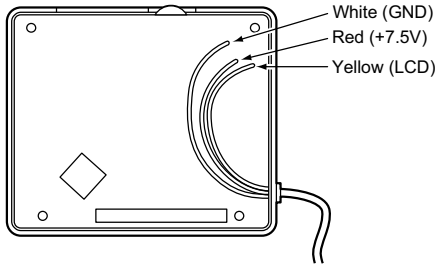


Fig. 5-2

- Confirm that + 7.5 V DC is supplied or not.
  If + 7.5 V DC is not supplied, connect the Digital Voltmeter between pins 1 and 2 of CN2 on the Video Board.
- Confirm that + 7.5 V DC is output to the LCD Monitor Ass'y or not.
  If + 7.5 V DC is output, the Wire between CN2 on the Video Board and the LCD Monitor Ass'y is defect.
- Connect the Oscilloscope between Yellow wire and White wire as shown in Fig. 5-2.
- Confirm that the Composite Video signal as shown in Fig. 5-3 is supplied or not.

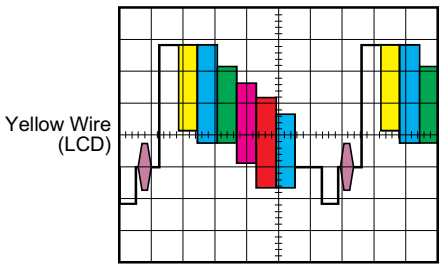


Fig. 5-3

If the Composite Video signal is supplied, the LCD Monitor Ass'y is defect.

If Composite Video signal is not supplied, the Wire between CN2 on the Video Board and the LCD Monitor Ass'y is defect.

■ Check for the Camera Unit

- Connect the Digital Voltmeter between pins 7 and 8 of CN1 on the Video Board and confirm + 7.5 V DC is supplied for the Camera Unit.
- Select the Video Imager mode by the Input Selector.
- Connect CH1 of the Oscilloscope to the pin 1 (YCM) of CN1 and CH2 to the pin 3 (CCM) of CN1 on the Video Board.
- If the YCM signal as shown in Fig. 5-4 and the CCM signal as shown in Fig. 5-5 are appeared at these pins.
  The Camera Unit is good and some defects in the Video Board.
  On the other hand, the signals are not appeared, open the Cover and check the inside of the Camera Unit.

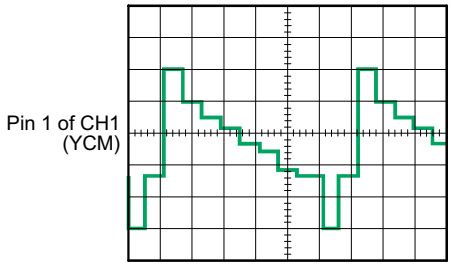


Fig. 5-4

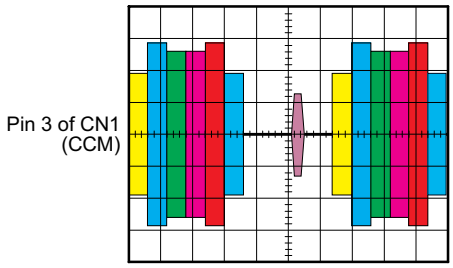


Fig. 5-5

- Referring to Fig. 5-6, remove four screws that secure the Camera Cover and remove the Camera Cover.

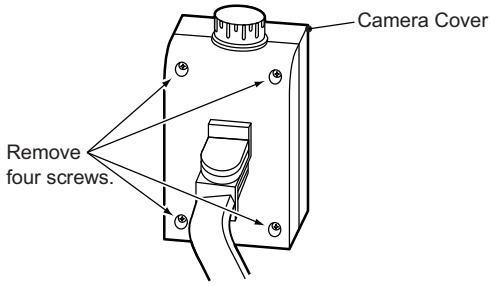


Fig. 5-6

- Connect the Digital Voltmeter between pins 1 and 2 of CN301 of the Camera Unit.
- Confirm + 7.5 V DC is supplied for the Camera Unit or not.
  If not supplied, connect the Digital Voltmeter between the lands L and M on the Zoom Switch Board.
- Confirm + 7.5 V DC is supplied or not.
  If not supplied, connect the Digital Voltmeter between the lands J and K on the Zoom Switch Board.
- Confirm + 7.5 V DC is supplied or not.
  If + 7.5 V DC is not supplied, the Wires between CN1 on the Video Board and the Zoom Switch Board are defect.
- Connect CH1 of the Oscilloscope to the pin 4 (YOUT) of CN1 and CH2 to the pin 2 (COUT) of CN001 on the Camera Unit.
- The Camera Unit is defect if the YOUT signal and the COUT signal are not appeared at these pins.
- The Cable is defect if the YOUT signal and the COUT signal are appeared at CN001 of the Camera Unit and no signals at the pins 1 and 3 of the CN1 on the Video Board.

REPLACEMENT PROCEDURE

Before you replace the fluorescent lamps and the Camera Unit, make sure the power is off and the power cord is disconnected from the AC outlet.

■ Back Light Unit

- Referring to the Item **2. Disassembling Procedure for Adjustment** on the page 4, open the Upper Cover Ass'y.
- Referring to Fig. 6-1, disconnect one connector from the Inverter Board.
- Remove two hexagon nuts and washers that secure the Inverter Board and remove the Inverter Board and two Spacers.

- Remove three hexagon nuts and washers that secure the Back Light Cover and remove the Back Light Cover and Back Light (Fluorescent Lamp).

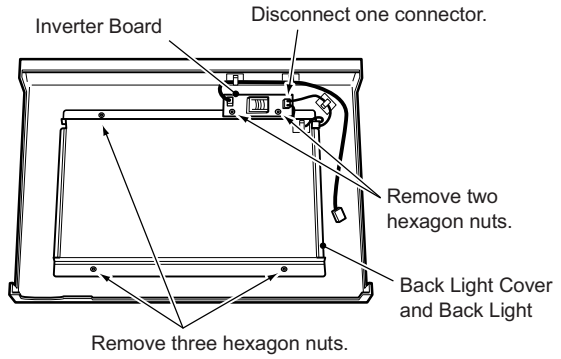


Fig. 6-1

- Mount the new Fluorescent Lamp.
- Mount the Back Light Cover.
- Insert three washers, and tighten three hexagon nuts to secure the Back Light.
- Insert two Spacers then insert the Inverter Board.
- Insert two washers, and tighten two hexagon nuts to secure the Inverter Board.

■ Arm Light

- Referring to Fig. 6-2, turn the Fluorescent Lamp quarter and remove the Fluorescent Lamp.

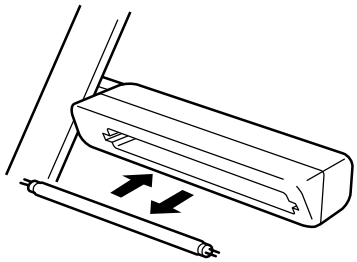


Fig. 6-2

Note : Use specified Fluorescent Lamps.

- Referring to Fig. 6-3, remove three screws that secure the Arm Light Cover and pull-out the Arm Light Cover while pressing the top of the Arm Light Cover.

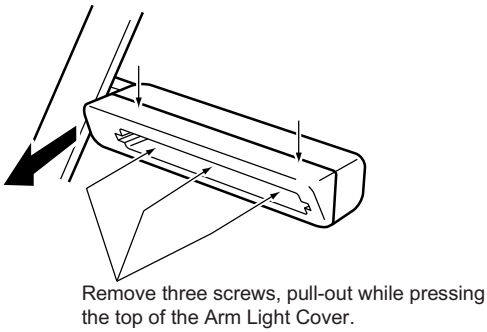


Fig. 6-3

■ LCD Monitor Ass'y

1. Back Light (Fluorescent Lamp)

- Referring to Fig. 6-4, remove four screws that secure the LCD Rear Cover and remove the LCD Rear Cover.

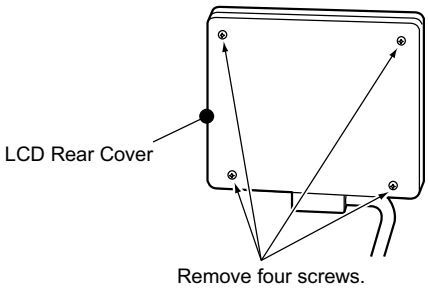


Fig. 6-4

- Referring to Fig. 6-5, de-solder both ends of the Back Light and two Thermal Fuses, then remove two Thermal Fuses and the Back Light through the Reflector.

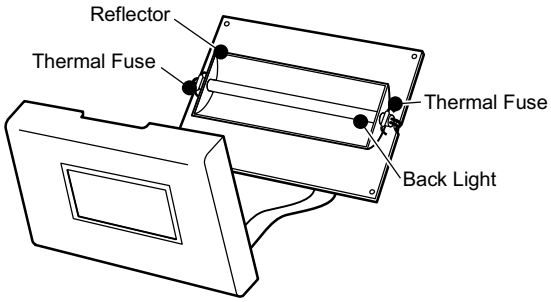


Fig. 6-5

- Insert new Back Light through the Reflector and two Thermal Fuses and then solder both ends and Thermal Fuse.

2. LCD Monitor Ass'y

- Referring to Fig. 6-6, remove one screw that secure the LCD Monitor Mounting Bracket and remove the LCD Monitor Mounting Bracket.

- Remove one screw that secure the LCD Monitor Ass'y and remove the LCD Monitor Ass'y.

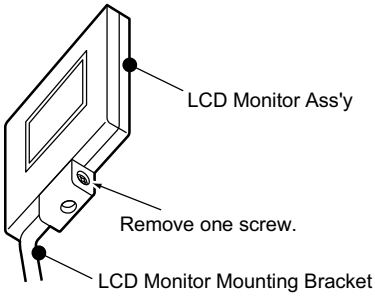


Fig. 6-6

- Referring to Fig. 6-7, remove four screws that secure the LCD Rear Cover and remove the LCD Rear Cover.

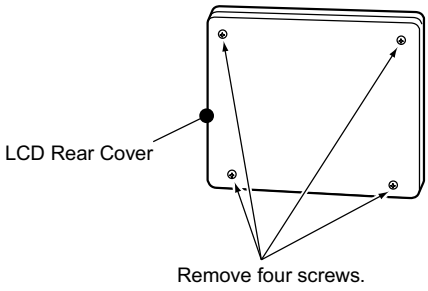


Fig. 6-7

- Referring to Fig. 6-8, de-solder three wires (Red, Yellow and White), and remove the LCD Monitor Ass'y.

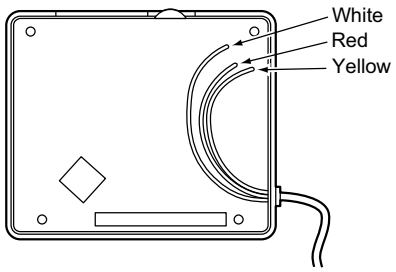


Fig. 6-8

■ Camera Unit

- Referring to Fig. 6-9, remove four screws that secure the Camera Cover.

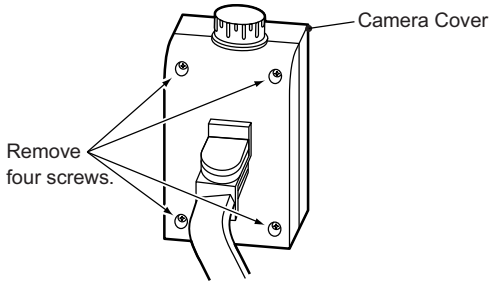


Fig. 6-9

- Referring to Fig. 6-10, disconnect the cable of the Main Unit from CN2 on the Zoom Switch Board.
- Release the Wire Clamper, remove four screws that secure the Camera Unit with the Mounting Bracket and remove the Camera Unit with the Mounting Bracket.

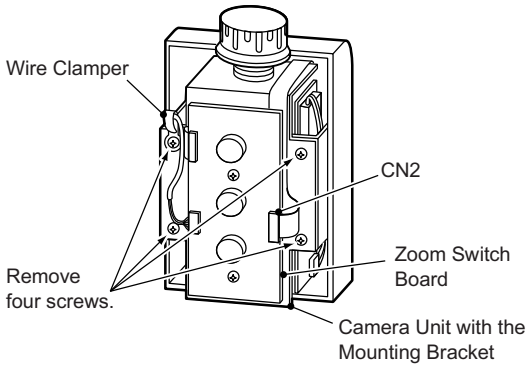


Fig. 6-10

- Referring to Fig. 6-11, disconnect two connectors CN1 and CN3 on the Zoom Switch Board.
- Remove two screws that secure the Zoom Switch Board and remove the Zoom Switch Board.

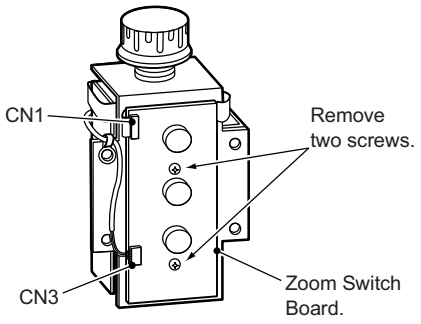


Fig. 6-11

- Referring to Fig. 6-12, loosen two hexagon socket set screws that secure the Camera Rotation Dial.

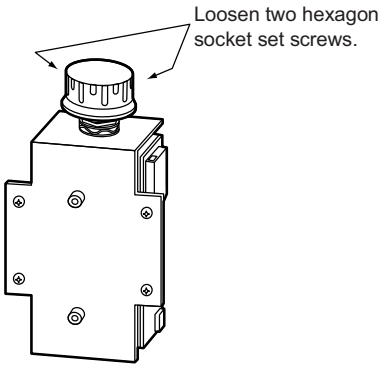


Fig. 6-12

- Referring to Fig. 6-13, remove two hexagon nuts that secure the Mounting Bracket and remove the Mounting Bracket.

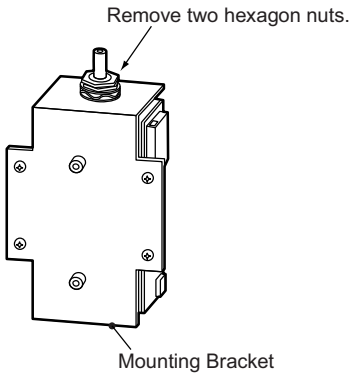


Fig. 6-13

- Referring to Fig. 6-14, remove two screws that secure the Plate Sub Ass'y and remove the Plate Sub Ass'y.

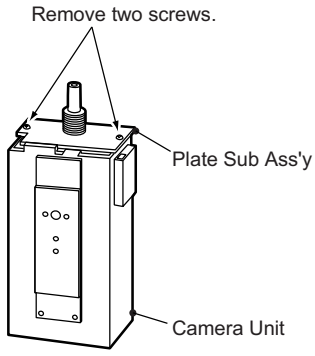


Fig. 6-14

■ Mounting of the Camera Unit

- Referring to Fig. 6-15, mount the Plate Sub Ass'y to the Camera Unit by two screws.

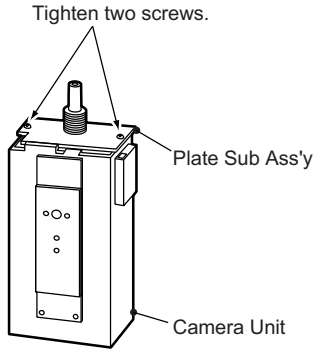


Fig. 6-15

- Referring to Fig. 6-16, mount the Mounting Bracket to the Plate Sub Ass'y by two hexagon nuts.

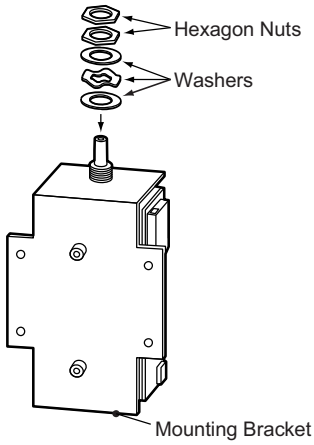


Fig. 6-16

- Referring to Fig. 6-17, mount the Zoom Switch Board to the Mounting Bracket by two screws.
- Connect two connectors from the Camera Unit to CN1 and CN3 on the Zoom Switch Board.

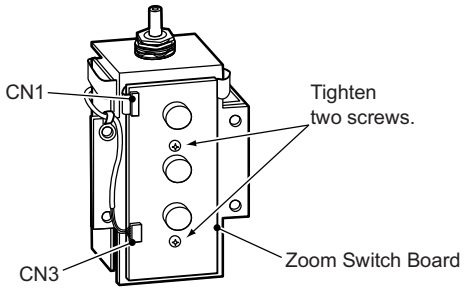


Fig. 6-17

- Referring to Fig. 6-18, mount the Camera Unit with the Mounting Bracket to the Camera Cover by four screws.
- Connect cable to CN2 on the Zoom Switch Board.
- Clamp the wire by the Wire Clamper.
- Hold the cable of CN2 of the Camera Unit at the Mounting Bracket using with the Cloth Adhesive Tape.

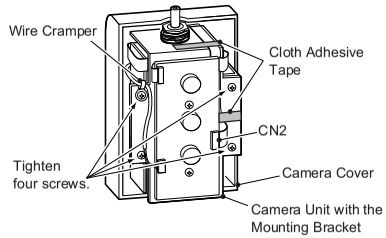


Fig. 6-18

- Referring to Fig. 6-19, mount the Camera Rotation Dial to the Camera Unit with the Mounting Bracket by two hexagon socket set screws.

  Note : Direction Indicator positions at the center.

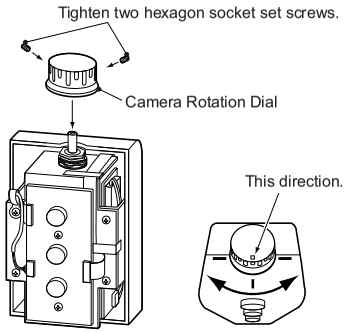
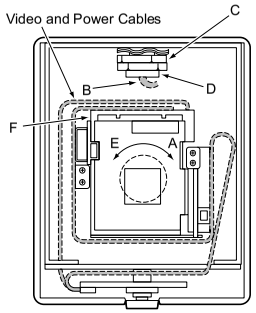


Fig. 6-19

■ **Confirm following points before mounting the Camera Cover:**

- Referring to Fig. 6-20, the cable at the B section is not lifted.
- Confirm when turn the Camera Unit to the A direction, the connectors of portion F are not stuck with the Cable at B section.
- Confirm when turn the Camera Unit to the A direction, the Video Cable and Power Cable are not stuck with the Nut C and Bracket D.
- Confirm that the all cables are free from thrust or stuck.
- Turn the Camera Unit to the A direction by 90°.
- Insert the eight Pipes to the four screws (two Pipes for one screw) before mount the Camera Cover, then tighten the screws (the tighten torque should be 3 Kg-cm).
- Turn the Camera Unit to both A and E directions, and confirm that the rotation torque should equally, no cable stuck and no sound makes from the Flat Cable hits the Cover.

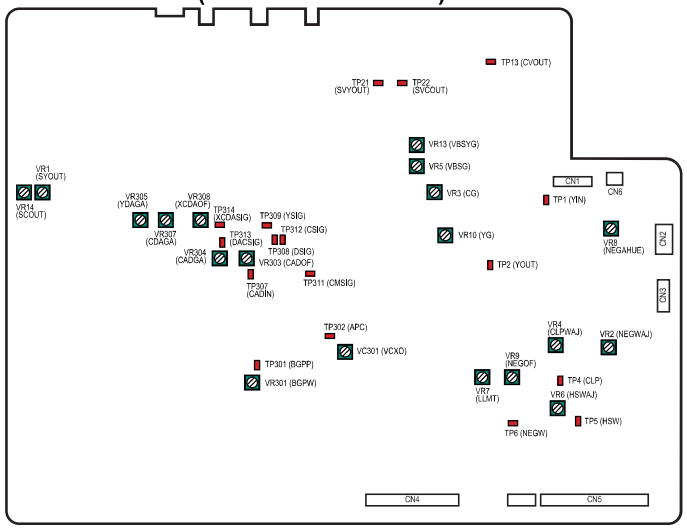


(View from the Top)

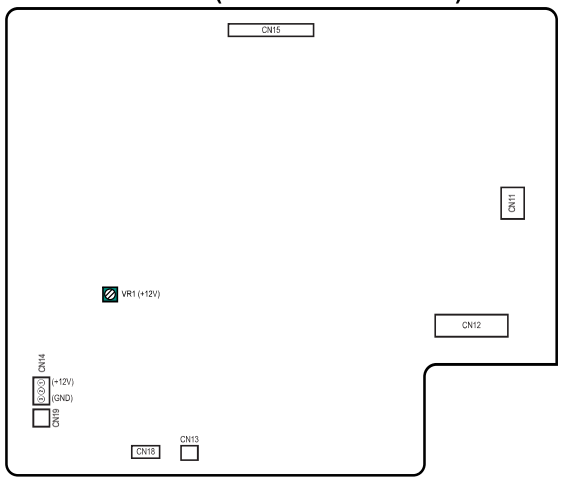
Fig. 6-20

LOCCATION OF TEST POINTS AND ADJUSTING CONTROLS

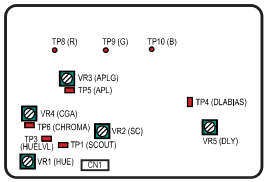
VIDEO BOARD (COMPONENT SIDE)



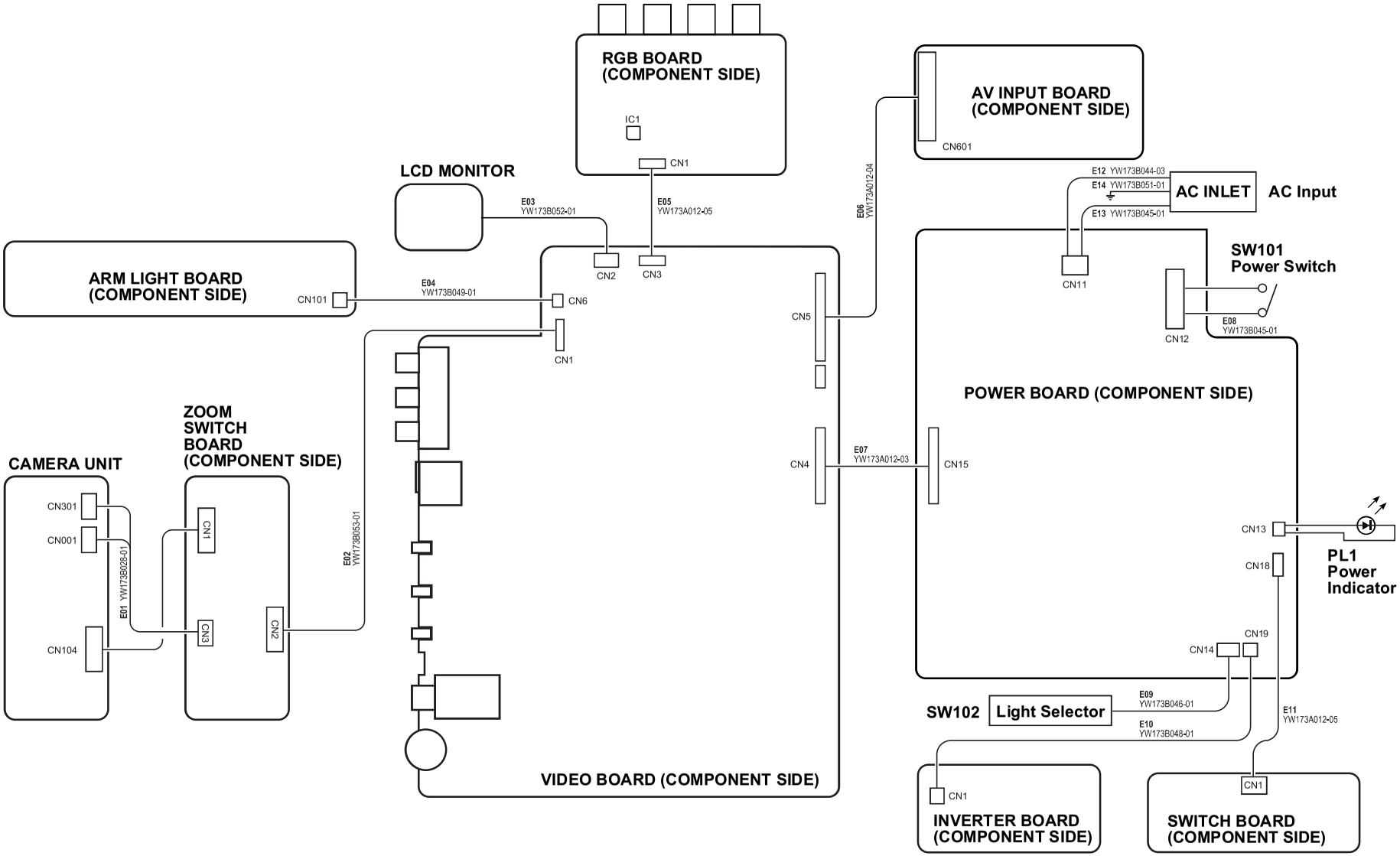
POWER BOARD (COMPONENT SIDE)



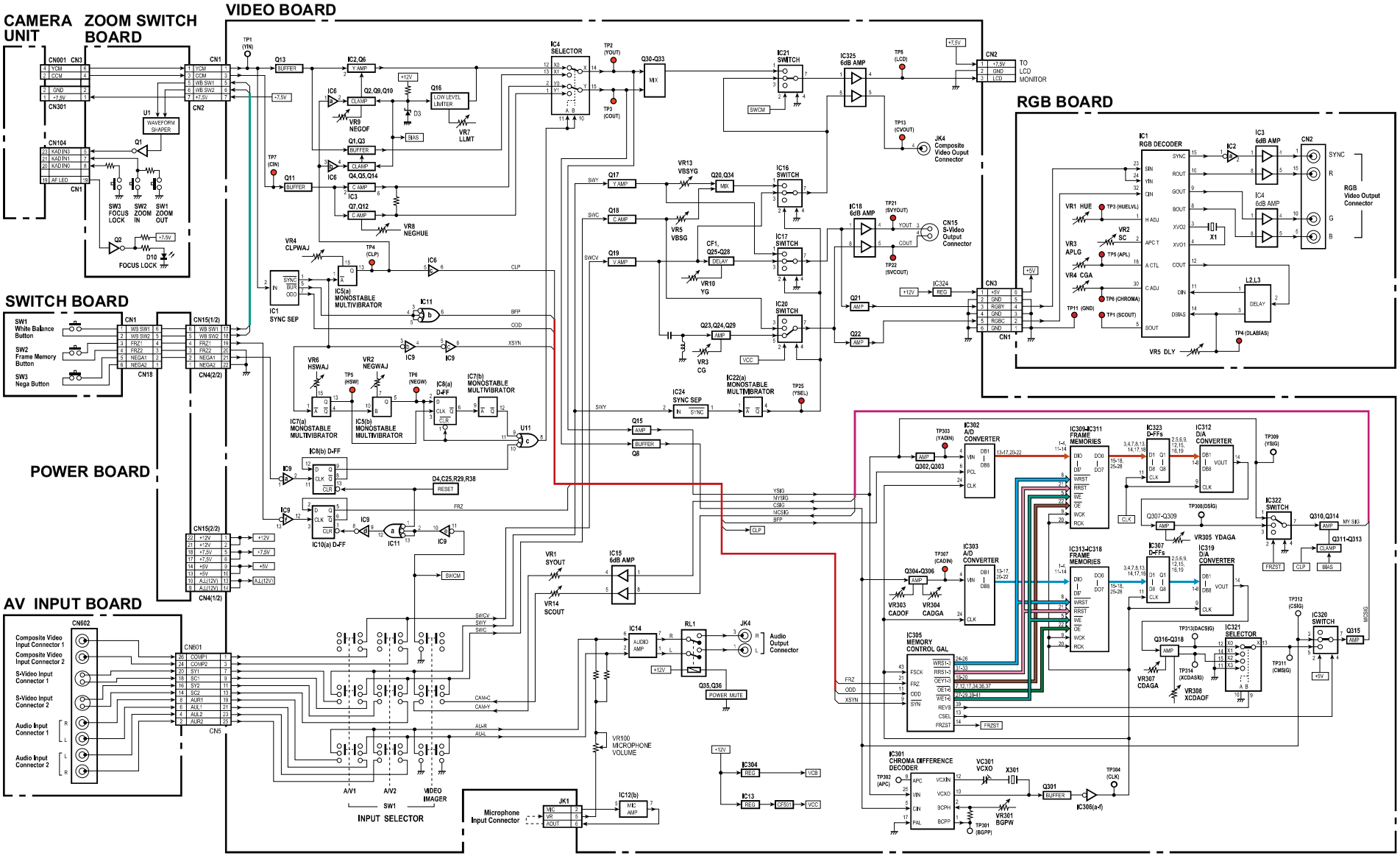
RGB BOARD (COMPONENT SIDE)



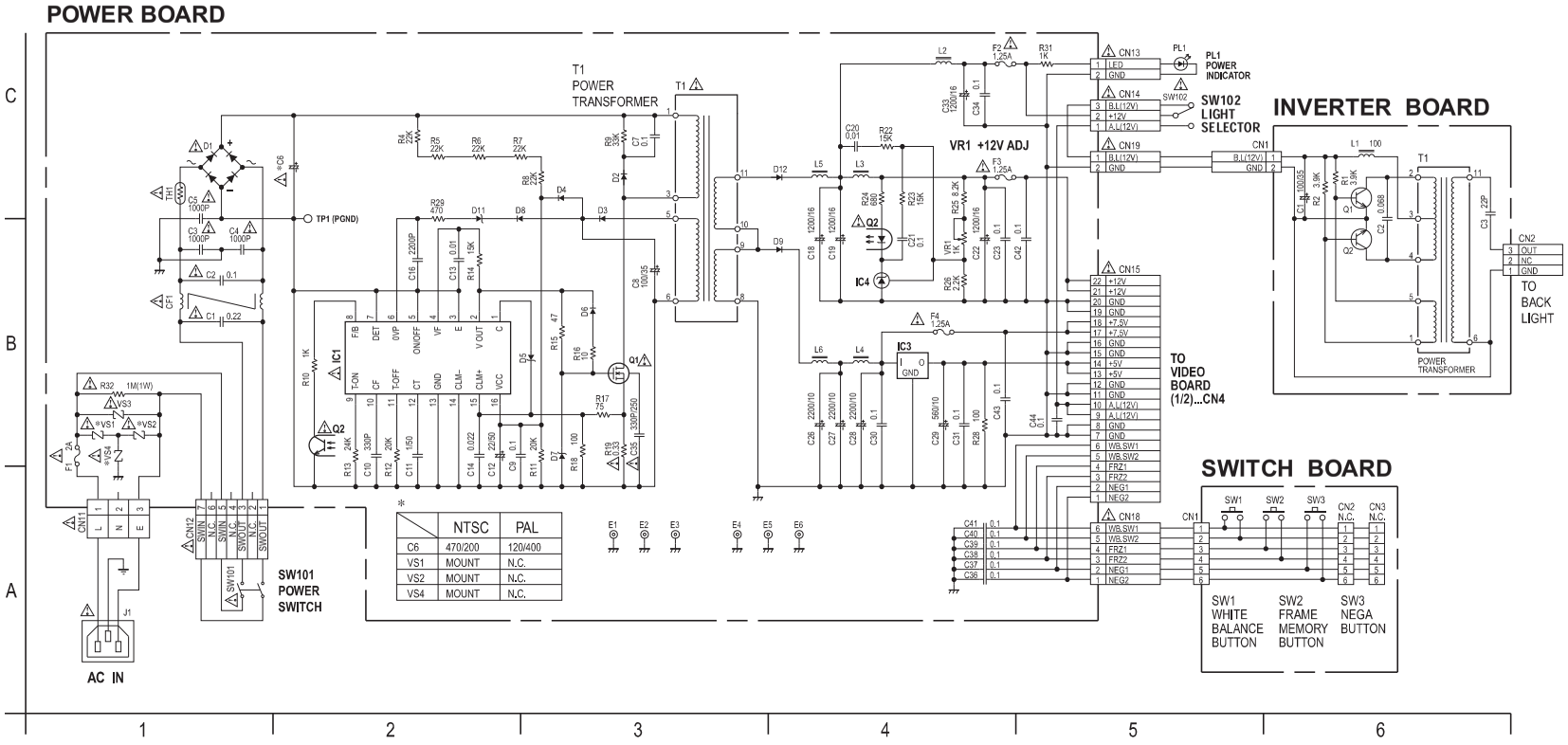
WIRING DIAGRAM



BLOCK DIAGRAM



SCHEMATIC DIAGRAM OF POWER BOARD / INVERTER BOARD / SWITCH BOARD



Important safety notice

Components Identified by " ⚠ " mark have special characteristics for safety.
When replacing any of these components, use only manufacturer's specified parts.

< INDEX >
POWER BOARD

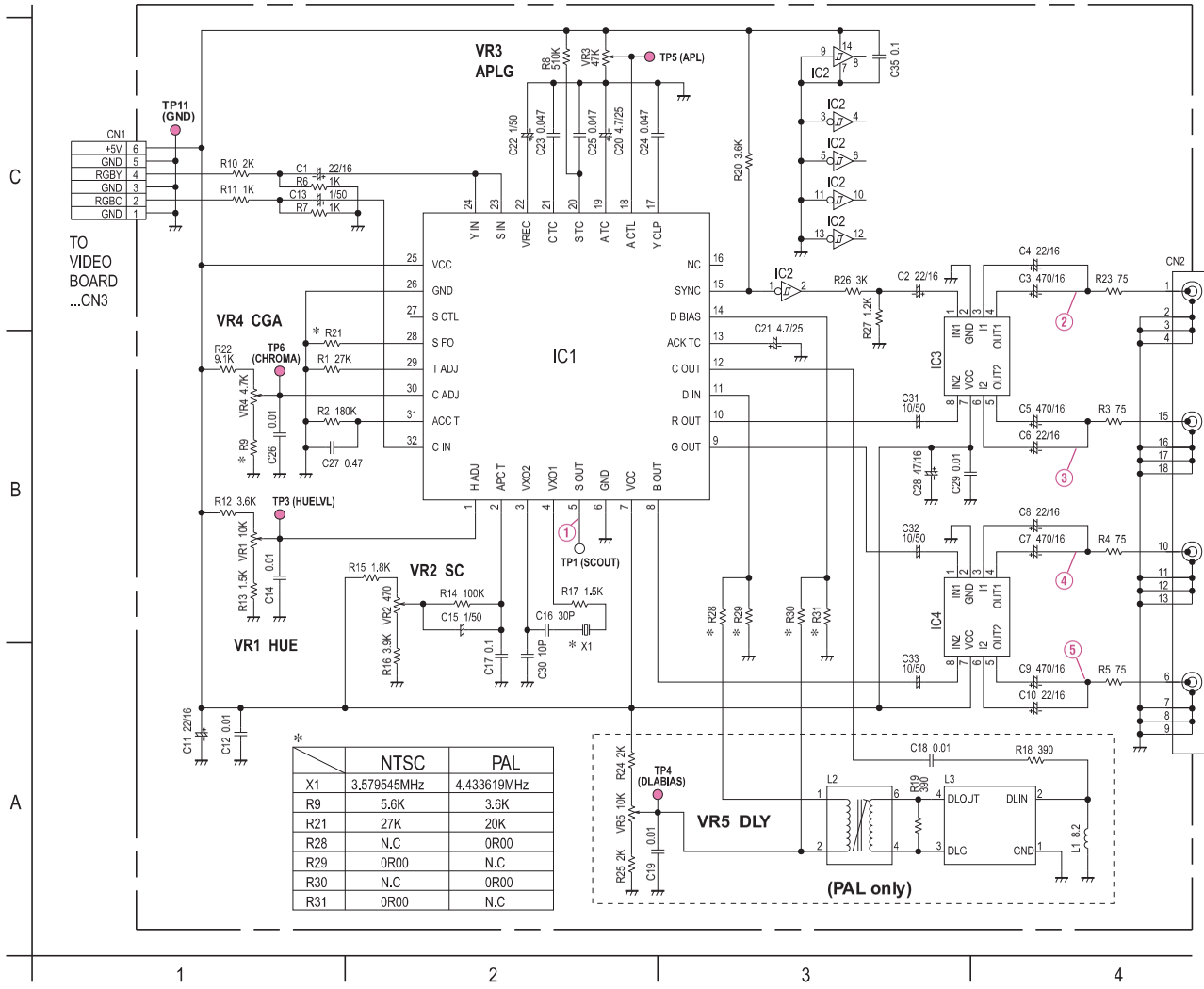
IC1	B2	D1	C1	D7	B3
IC3	B4	D2	C3	D8	C2
IC4	B4	D3	C3	D11	C2
		D4	C3		
Q1	B3	D5	B3		
Q2	B2,B4	D6	B3		

< INDEX >
INVERTER BOARD

Q1	C6
Q2	B6

SCHEMATIC DIAGRAM OF RGB BOARD

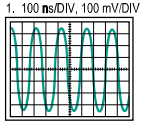
RGB BOARD



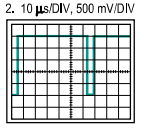
	NTSC	PAL
X1	3.579545MHz	4.433619MHz
R9	5.6K	3.6K
R21	27K	20K
R28	N.C	0R00
R29	0R00	N.C
R30	N.C	0R00
R31	0R00	N.C

RGB BOARD

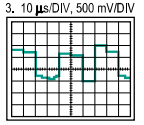
1. 100 ns/DIV, 100 mV/DIV



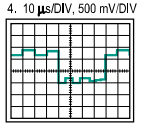
2. 10 µs/DIV, 500 mV/DIV



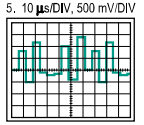
3. 10 µs/DIV, 500 mV/DIV



4. 10 µs/DIV, 500 mV/DIV



5. 10 µs/DIV, 500 mV/DIV



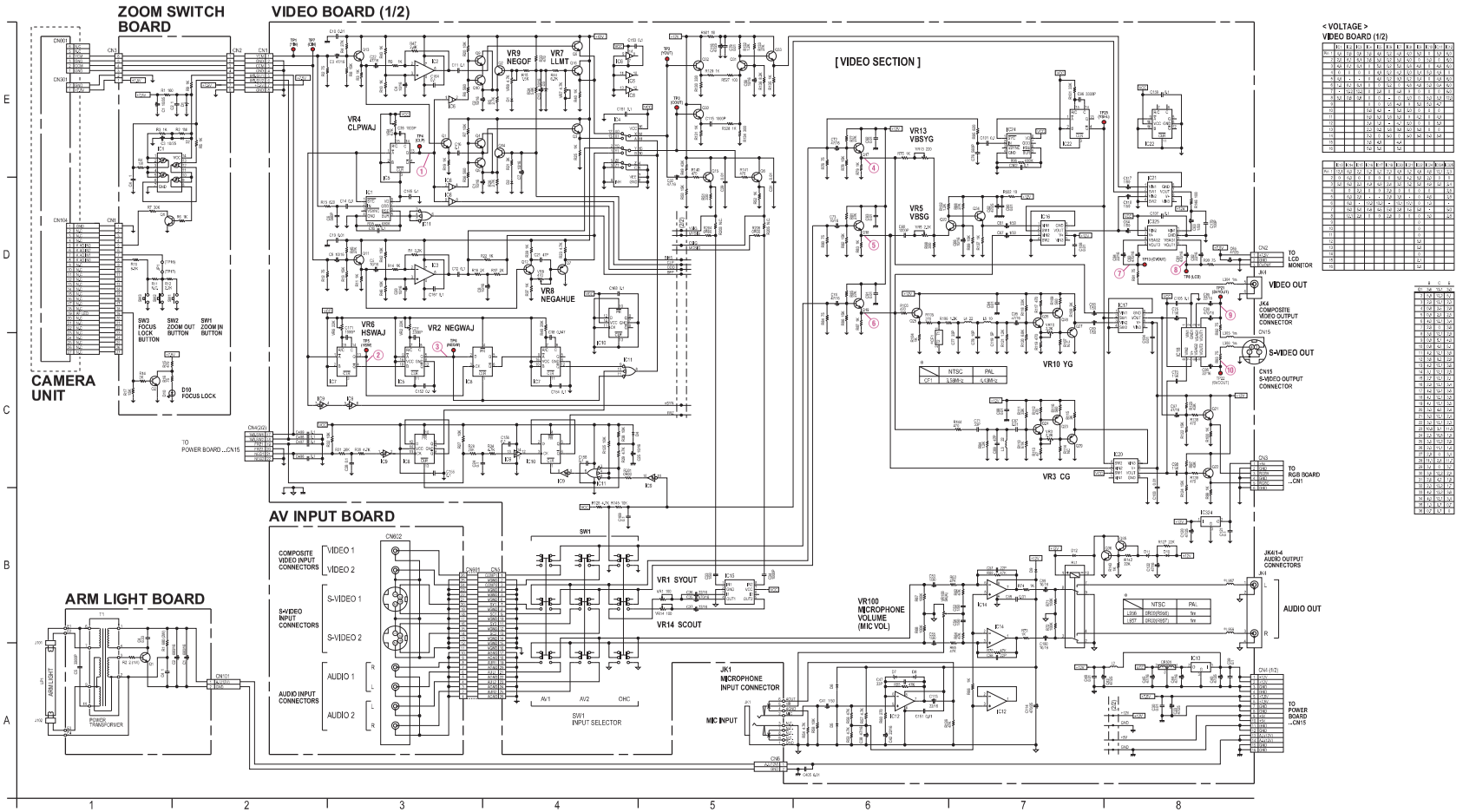
< INDEX > RGB BOARD

IC1 B2/B3/C2/C3
IC2 C3
IC3 B3/B4
IC4 B3/B4

< VOLTAGE > RGB BOARD

	IC1	IC2	IC3	IC4
Pin 1	2,8	0,6	3,1	2,1
2	3,4	4,5	0	0
3	3.0	0	3.7	2.1
4	2.9	5.0	4.0	2.0
5	1.8	0	2.1	2.2
6	0	5.0	2.1	2.2
7	5.0	0	5.0	5.0
8	2.2	5.0	2.1	2.2
9	2.1	0		
10	2.1	5.0		
11	0	0		
12	3.2	5.0		
13	3.3	0		
14	0	5.0		
15	0.6			
16	4.7			
17	3.4			
18	2,0			
19	2,5			
20	2.9			
21	3.1			
22	4.1			
23	2.5			
24	2.5			
25	5.0			
26	0			
27	2.5			
28	2.1			
29	1.2			
30	1.9			
31	2.2			
32	2.2			

SCHEMATIC DIAGRAM OF VIDEO BOARD (1/2) / ZOOM SWITCH BOARD / AV INPUT BOARD / ARM LIGHT BOARD



< VOLTAGE >
VIDEO BOARD (1/2)

IC1	D3	Q2	E4	Q26	D7	D1	E4			
IC2	E3	Q3	E4	Q27	D7	D2	D4			
IC3	D3	Q4	E3/E4	Q28	D7	D3	E4			
IC4	D4/E4	Q5	E3/E4	Q29	C7	D4	C4			
IC5	C3,E3	Q6	E4	Q30	E5	D5	A6			
IC6	D3,E3,E4	Q7	D4	Q31	E5	D7	A6			
IC7	C3,C4	Q8	D5/E5	Q32	E5	D8	A6			
IC8	C3/C4	Q9	E3/E4	Q33	E5	D9	B7			
IC9	C2,C3,C4,C5	Q10	E3/E4	Q34	D7	D10	B8			
IC10	C4,D4	Q11	D3	Q35	B8	D11	B8			
IC11	C4,D3,D4	Q12	D4	Q36	B8	D12	B7			
IC12	A6,A7	Q13	E3							
IC13	A6	Q14	E4							
IC14	B7	Q15	D5/E5							
IC15	B5	Q16	E4							
IC16	D7	Q17	E6							
IC17	D8	Q18	D6							
IC18	C8/D8	Q19	D6							
IC20	C8	Q20	D7							
IC21	D8	Q21	C8							
IC22	E7/E8	Q22	C8							
IC24	E7	Q23	C7							
IC324	B8	Q24	C7							
IC325	D8	Q25	D6							

< INDEX >
VIDEO BOARD (1/2)

IC1	D3	Q2	E4	Q26	D7	D1	E4
IC2	E3	Q3	E4	Q27	D7	D2	D4
IC3	D3	Q4	E3/E4	Q28	D7	D3	E4
IC4	D4/E4	Q5	E3/E4	Q29	C7	D4	C4
IC5	C3,E3	Q6	E4	Q30	E5	D5	A6
IC6	D3,E3,E4	Q7	D4	Q31	E5	D7	A6
IC7	C3,C4	Q8	D5/E5	Q32	E5	D8	A6
IC8	C3/C4	Q9	E3/E4	Q33	E5	D9	B7
IC9	C2,C3,C4,C5	Q10	E3/E4	Q34	D7	D10	B8
IC10	C4,D4	Q11	D3	Q35	B8	D11	B8
IC11	C4,D3,D4	Q12	D4	Q36	B8	D12	B7
IC12	A6,A7	Q13	E3				
IC13	A6	Q14	E4				
IC14	B7	Q15	D5/E5				
IC15	B5	Q16	E4				
IC16	D7	Q17	E6				
IC17	D8	Q18	D6				
IC18	C8/D8	Q19	D6				
IC20	C8	Q20	D7				
IC21	D8	Q21	C8				
IC22	E7/E8	Q22	C8				
IC24	E7	Q23	C7				
IC324	B8	Q24	C7				
IC325	D8	Q25	D6				

< INDEX >
ZOOM SWITCH BOARD

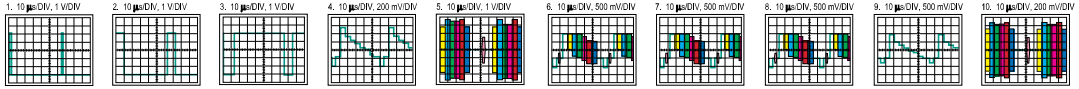
IC1	D1/D2/E1/E2
Q1	D1/D2
Q2	C1
D1	E2
D2	E2
D10	C1/C2

< INDEX >
ARM LIGHT BOARD

Q1	A1

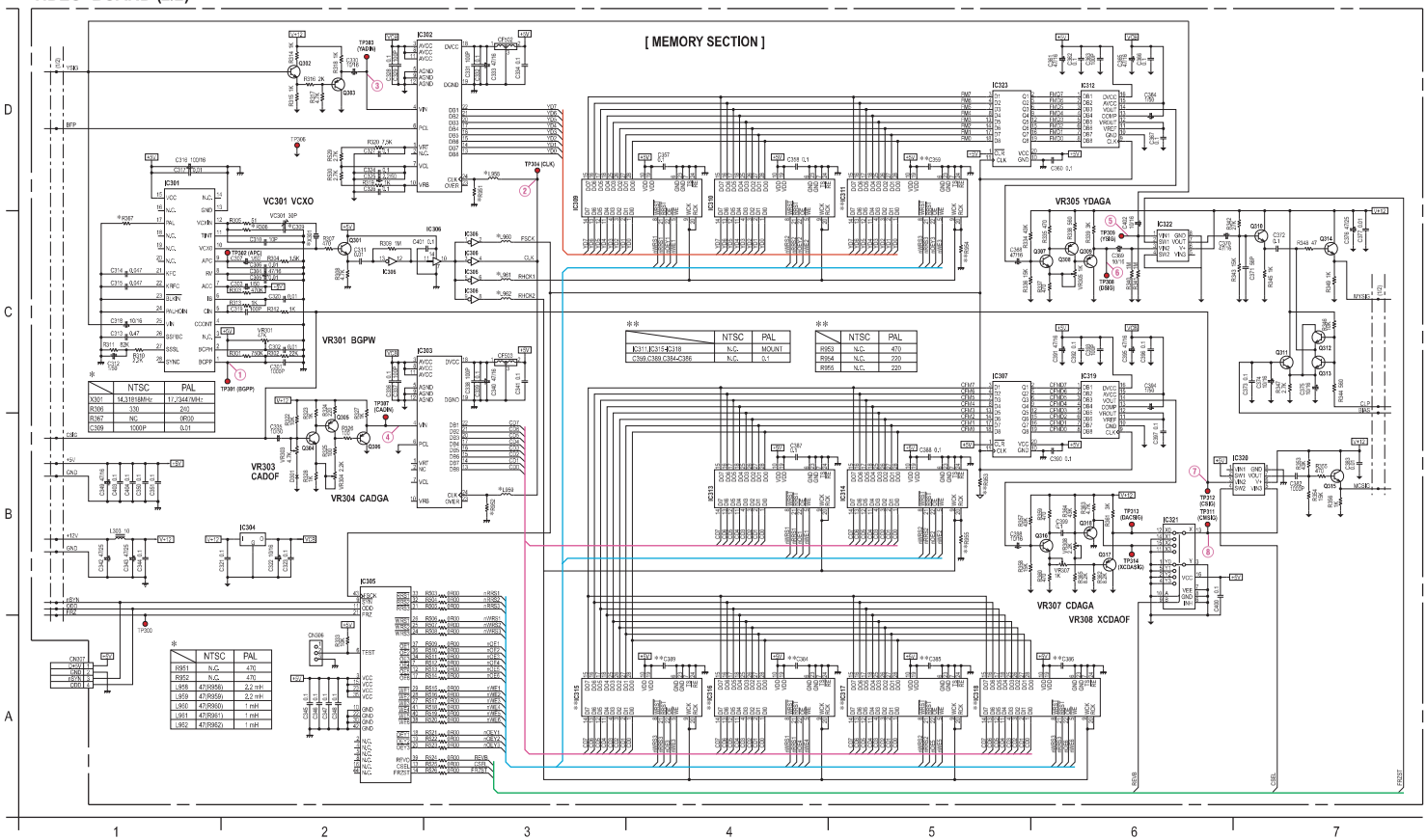
VIDEO BOARD (1/2)

1. 10 µs/DIV, 1 V/DIV
2. 10 µs/DIV, 1 V/DIV
3. 10 µs/DIV, 1 V/DIV
4. 10 µs/DIV, 200 mV/DIV
5. 10 µs/DIV, 1 V/DIV
6. 10 µs/DIV, 500 mV/DIV
7. 10 µs/DIV, 500 mV/DIV
8. 10 µs/DIV, 500 mV/DIV
9. 10 µs/DIV, 500 mV/DIV
10. 10 µs/DIV, 200 mV/DIV



SCHEMATIC DIAGRAM OF VIDEO BOARD (2/2)

VIDEO BOARD (2/2)



< VOLTAGE >
VIDEO BOARD (2/2)

	IC301	IC302	IC303	IC304	IC305	IC306	IC309	IC311	IC312	IC315
Pin 1	3.5	3.3	3.3	10.0	5.0	2.6	1.8	1.8	1.4	1.2
2	3.6	-	-	0	4.9	2.5	0.1	0.1	1.4	1.2
3	-	5.2	5.1	5.6	5.0	2.5	1.8	1.8	1.2	1.2
4	0	3.7	0	0	4.9	2.5	2.1	2.1	2.1	2.1
5	3.0	0	0	0	5.3	2.5	2.1	2.1	2.1	2.1
6	3.0	7.4	0	0	5.3	2.5	0	0	2.5	0
7	4.3	2.0	5.4	0	5.3	0	0	0	2.4	0
8	0	5.0	5.0	0	5.0	2.2	2.1	2.1	2.1	2.1
9	3.0	0	0	0	4.9	2.2	2.1	2.1	2.1	2.1
10	3.1	2.4	3.3	0	5.0	5.0	5.3	0	5.0	
11	0	5.0	5.0	0	5.0	2.2	5.3	5.3	4.0	1.2
12	3.1	0	0	0	5.0	2.2	5.3	5.3	4.0	1.2
13	0	1.2	2.2	0	4.9	2.4	5.1	5.1	3.6	1.2
14	3.2	1.7	1.5	0	5.7	5.2	5.1	5.1	4.0	1.2
15	3.0	1.2	3.6	0	5.3	2.2	1.7	1.7	5.0	1.2
16	-	2.2	1.7	0	5.7	2.1	2.1	2.1	5.0	1.2
17	0.5	2.2	3.3	0	5.7	2.1	1.7	1.7	0	1.2
18	0.5	5.2	5.0	0	5.7	2.1	1.8	1.8	1.3	1.2
19	-	5.2	0	0	5.7	5.2	5.2	5.2	5.2	1.2
20	-	1.4	5.4	0	5.0	2.5	2.5	2.5	2.5	1.2
21	3.8	1.2	5.3			2.1	2.1	2.1	2.1	1.2
22	3.7	1.2	4.5			2.1	2.1	2.1	2.1	1.2
23	0	5.1				0	0	0	0	0
24	3.3	0				0	0	0	0	0
25	3.3					2.1	2.2	2.1	2.2	1.2
26	3.0					2.1	2.1	2.1	2.1	1.2
27	-					2.1	2.1	2.1	2.1	1.2

	IC316	IC317	IC318	IC319	IC320	IC321	IC322	IC323
Pin	1.2	1.2	1.2	1.2	5.0	0	5.0	5.0
2	5.1	5.1	5.1	5.1	5.1	0	5.1	5.1
3	3.7	3.7	3.7	3.7	4.9	0	5.0	1.1
4	0	0	0	0	0	0.1	0	0
5	2.2	2.2	2.2	2.2	0	2.5	0	5.0
6	5.1	5.1	5.1	5.1	5.0	5.0	5.0	5.0
7	1.1	1.1	1.1	1.1	1.3	4.6	0	2.0
8	1.2	1.2	1.2	1.2	1.2	0	0	1.2
9	5.1	5.1	5.1	5.1	5.0	0	0	2.4
10	5.1	5.1	5.1	5.1	5.0	0	0	5.0
11	3.3	3.3	3.3	3.3	3.3	0	0	0
12	5.1	5.1	5.1	5.1	5.1	0	0	0
13	5.1	5.1	5.1	5.1	5.1	0	0	0
14	5.1	5.1	5.1	5.1	5.1	0	0	0
15	5.1	5.1	5.1	5.1	5.1	0	0	0
16	5.1	5.1	5.1	5.1	5.1	0	0	0
17	5.1	5.1	5.1	5.1	5.1	0	0	0
18	5.1	5.1	5.1	5.1	5.1	0	0	0
19	5.1	5.1	5.1	5.1	5.1	0	0	0
20	5.1	5.1	5.1	5.1	5.1	0	0	0
21	3.1	3.1	3.1	3.1	3.1	0	0	0
22	3.2	3.2	3.2	3.2	3.2	0	0	0
23	3.1	3.1	3.1	3.1	3.1	0	0	0
24	3.1	3.1	3.1	3.1	3.1	0	0	0
25	3.1	3.1	3.1	3.1	3.1	0	0	0
26	3.1	3.1	3.1	3.1	3.1	0	0	0
27	3.1	3.1	3.1	3.1	3.1	0	0	0

	B	C	E
Q 1	5.1	11.1	7.2
2	5.1	0	7.2
3	5.2	0	2.3
4	11.1	2.2	11.2
5	2.2	11.1	7.2
6	2.2	5.0	2.3
7	5.1	11.1	7.2
8	4.2	11.2	3.4
9	0.1	11.2	7.2
10	5.0	2.2	2.3
11	0.8	2.2	2.3
12	2.2	11.2	2.3
13	5.1	0	5.7
14	5.2	11.2	2.3
15	5.1	11.2	2.3
16	2.2	0	2.2
17	5.2	5.2	2.3
18	5.2	0	5.4

	IC330
Pin 1	-
2	-
3	4.3
4	0
5	5.0
6	4.3
7	2.2
8	2.2
9	2.2
10	4.4
11	2.2
12	2.3
13	0
14	4.2
15	2.2
16	2.2
17	4.3
18	5.0
19	2.2
20	2.2
21	2.2
22	4.2
23	1.2
24	-
25	0
26	2.2
27	1.2
28	1.7
29	1.2
30	5.0
31	0
32	0
33	5.0
34	0
35	0
36	4.2
37	0
38	2.2
39	0
40	0
41	0
42	5.0
43	2.2
44	3.2

**

	NTSC	PAL
IC311,IC315-IC318	N.C.	MOUNT
C369,C369,C384-C386	N.C.	0.1

**

	NTSC	PAL
R953	N.C.	470
R964	N.C.	220
R965	N.C.	220

*

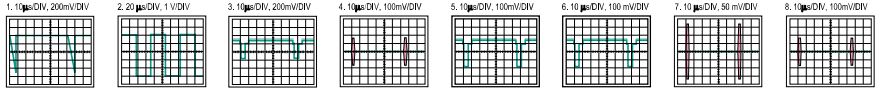
	NTSC	PAL
X301	14.31818MHz	17.7344764Hz
R306	330	240
R367	NC	OR00
C309	1000P	0.01

*

	NTSC	PAL
R951	N.C.	470
R952	N.C.	470
L958	47(R958)	2.2 mH
L959	47(R959)	2.2 mH
L960	47(R960)	1 mH
L961	47(R961)	1 mH
L962	47(R962)	1 mH

VIDEO BOARD (2/2)

1. 10 µs/DIV, 200mV/DIV
2. 20 µs/DIV, 1 V/DIV
3. 10 µs/DIV, 200mV/DIV
4. 10 µs/DIV, 100mV/DIV
5. 10 µs/DIV, 100mV/DIV
6. 10 µs/DIV, 100 mV/DIV
7. 10 µs/DIV, 50 mV/DIV
8. 10 µs/DIV, 100mV/DIV



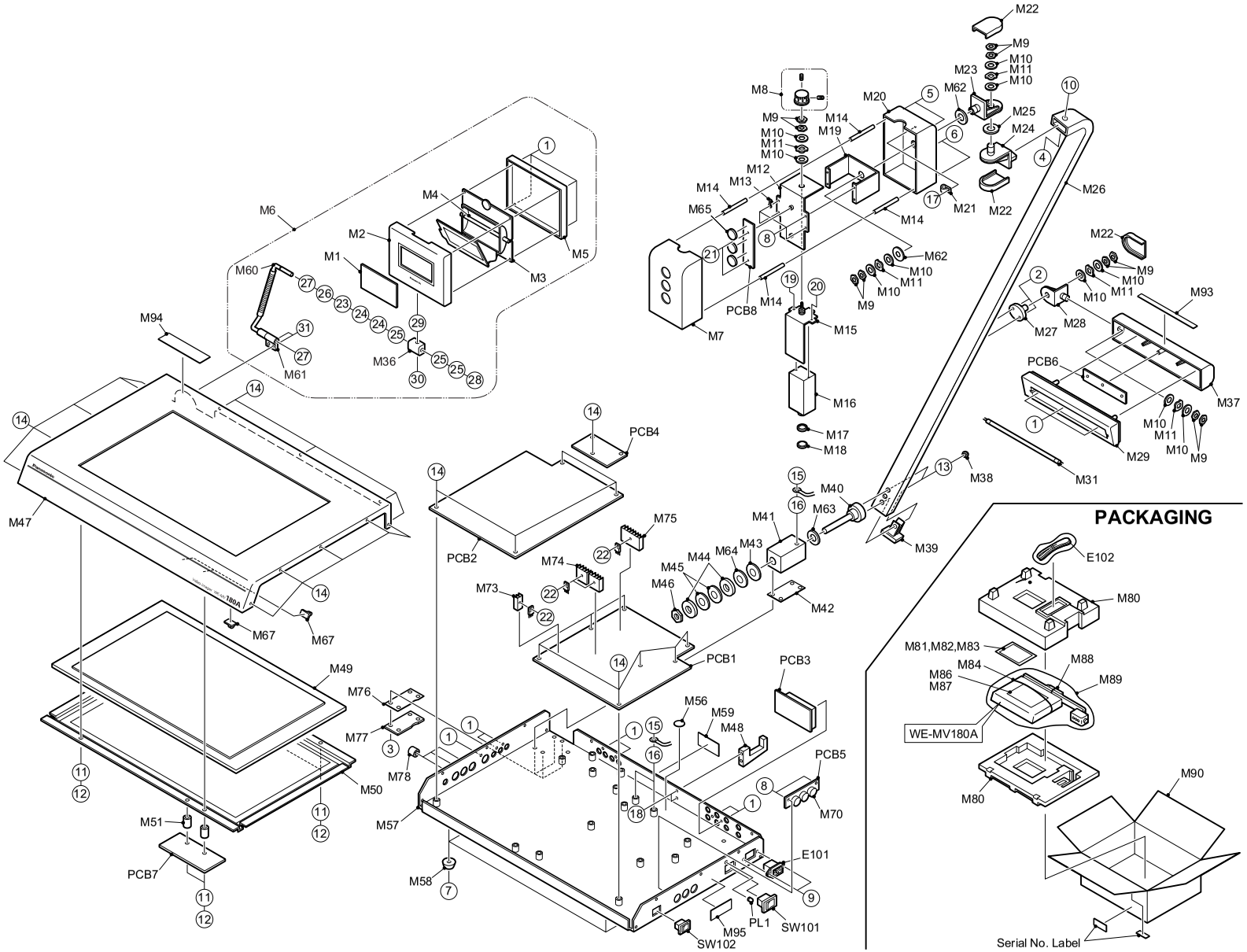
< INDEX >
VIDEO BOARD (2/2)

IC301 C1/D1
IC302 D2/D3
IC303 B2/B3/C2/C3
IC304 B2
IC305 A2/B2
IC306 C2/C3
IC307 B5/C5
IC309 C3/C4/D3/D4
IC310 C4/D4
IC311 C5/D5
IC312 D6
IC313 B4/B5
IC314 B5
IC315 A3/A4
IC316 A4/A5
IC317 A5
IC318 A3/A6
IC319 B6/C6
IC320 B7
IC321 B6
IC322 C6
IC323 D5
Q301 C2
Q302 D2
Q303 D2
Q304 B2
Q305 B2
Q306 B2
Q310 C7
Q311 C7
Q312 C7
Q313 C7
Q314 C7
Q315 B7
Q316 B6
Q317 B6
Q318 B6
D301 B2

EXPLODED VIEW

◯ Numbers show screws, washers, nuts and etc.

No.	Screws	Description
①	YW108F097-01	Pan Head Tapping Screws
②	YWAM3-6	Hexagon Cap Screw
③	YW108F086-03	Hexagon Cap Screws
④	YW108F086-02	Hexagon Cap Screw
⑤	YWLB3-70	Pan Head Screws
⑥	YWLB3-85	Pan Head Screws
⑦	YWLBWS4-12	Pan Head Screw and Washer Assy
⑧	YWLBWS3-6	Pan Head Screw and Washer Assy
⑨	YWLS3-10S	Flush Head Screws
⑩	YWTR4-6	Truss Head Screw
⑪	YWWS3-MS	Round Plain Washers
⑫	YWNM3-1	Spring Lock Washers
⑬	YWAM6-10	Hexagon Cap Screw
⑭	YWLD3-6	Binding Head Screws
⑮	YWLBWSM4-8	Pan Head Screw and Washer assy
⑯	YWWO4-M	Internal Toothed Lock Washer
⑰	YW108F082-07	Binding Head Tapping Screw
⑱	YW108F082-11	Truss Head Tapping Screws
⑲	YWLBWSM2-6	Pan Head Screw and Washer Assy
⑳	YWLS2-5	Pan Head Screw and Washer Assy
㉑	YWLBWSM3-6	Pan Head Screw and Washer Assy
㉒	YWY9308LB	Binding Head Screws
㉓	YWWM5-1	Round Plain Washer
㉔	YW102B001-01	Round Plain Washers
㉕	YW104S023-01	Round Plain Washers
㉖	YWWM3-2	Round Plain Washer
㉗	YWCE-4	Retaining Ring "Type E"
㉘	YW108F098-02	Binding Head Screws
㉙	YWLB5-8	Pan Head Screw
㉚	YWTS3-3	Hexagon Cap Screw
㉛	YW108F098-06	Binding Head Screws



PACKAGING

REPLACEMENT PARTS LIST

Important Notice

1. Components identified by " ⚠ " mark have special characteristics important for safety.
   When replacing any of these components, use only manufacturer's specified parts.
2. RTL : Retention Time Limited.

REF. NO.	PART NO.	DESCRIPTION
	MISCELLANEOUS	
E101 ⚠	YW159A061-01	AC Inlet
SW101 ⚠	YW154A131-01	Power Switch
SW102 ⚠	YW154A128-01	Back Light/Arm Light Switch
SW103 ⚠	YW154E071-01	Protection Switch
PL1	YW691A462-01	LED
E01	YW173B028-01	Wire Ass'y for Camera Unit CN001/ CN301 and Zoom Switch Boad CN3
E02	YW173B053-01	Wire Ass'y for Zoom Switch Board CN2 and Video Board CN1
E03	YW173B052-01	Wire Ass'y for LCD Monitor and Video Board CN2
E04	YW173B049-01	Wire Ass'y for Arm Light Board CN101 and Video Board CN6
E05	YW173A012-05	Wire Ass'y for RGB Board CN1 and Video Board CN3
E06	YW173A012-04	Wire Ass'y for AV Input Board CN601 and Video Board CN5
E07	YW173A012-03	Wire Ass'y for Video Board CN4 and Power Board CN15
E08	YW173B045-01	Wire Ass'y for Power Board CN12 and Power Switch SW101
E09	YW173B046-01	Wire Ass'y for Power Board CN14 and Back Light/Arm Light Switch SW102
E10	YW173B048-01	Wire Ass'y for Power Board CN19 and Inverter Board CN1
E11	YW173A012-05	Wire Ass'y for Power Board CN18 and Switch Board CN1
E12	YW173B044-02	Wire Ass'y for Power Board CN11 and AC Inlet (L)
E13	YW173B045-01	Wire Ass'y for Power Board CN11 and AC Inlet (N)
E14	YW173B051-01	Wire Ass'y for AC Inlet (E) and Chassis

REF. NO.	PART NO.	DESCRIPTION
M1	YW355H247-01	Protect Plate
M2	YW324A140-01	LCD Front Cover
M3	YW191A027-01	LCD Unit
M4 ⚠	YW153A075-01	Lamp and Thermal Fuse Ass'y
M5	YW324A116-01	LCD Rear Cover
M6	YW860C303-06	LCD Monitor Ass'y
M7	YW379B186-01	Camera Front Cover
M8	YW124A061-01	Camera Rotation Dial Ass'y
M9	YW108F064-09	Nut
M10	YW377A980-01	Washer
M11	YW102B001-02	Wave Washer
M12	YW607A676-01	Mounting Bracket
M13	YW108B001-02	Wire Clamper
M14	YW375A427-01	Pipe
M15	YW607A675-01	Plate Sub Ass'y
M16	YW191A025-01	Camera Unit Ass'y
M17	YW146A127-01	Close Up Lens
M18	YW114A017-01	Lens Cap
M19	YW355C893-01	Mounting Bracket
M20	YW379B173-01	Camera Rear Cover
M21	YW108A027-01	Cable Clamper
M22	YW379B168-01	Joint Cover
M23	YW353A775-03	Bracket
M24	YW353A776-01	Bracket
M25	YW377A998-01	Washer
M26	YW361A044-03	Camera Arm
M27	YW371D606-01	Boss
M28	YW355Z764-01	Shade Plate
M29	YW379B189-01	Arm Light Front Cover
M31 ⚠	YW153A078-01	Fluorescent Lamp
M36	YW406B198-01	LCD Mounting Bracket
M37	YW379B188-01	Arm Light Rear Cover
M38	YW114A016-01	Cap
M39	YW355Z754-02	Escutheon
M40	YW370F082-01	Shaft Ass'y
M41	YW406B204-01	Block
M42 ⚠	YW355H287-01	Insulator
M43	YW377A981-01	Washer
M44	YW375A429-01	Collar
M45	YW102B005-02	Countersink Spring
M46	YW397A074-01	Nut
M47	YW379A924-01	Upper Cover
M48	YW354B272-01	Camera Arm Holder
M49	YW355L142-01	Back Light Cover Ass'y

REF. NO.	PART NO.	DESCRIPTION
M50 ⚠	YW191C013-01	Back Light
M51	YWY9908YA	Spacer
M56 ⚠	YW337H394-01	Earth Mark Label
M57	YW355C937-01	Bottom Cover
M58	YW122A001-06	Rubber Foot
M59 ⚠	YW337F223-01	Main Label for WE-MV180/A
	YW337F224-01	Main Label for WE-MV180/B
	YW337F225-01	Main Label for WE-MV180/G
M60	YW354B277-01	LCD Arm Cable Ass'y
M61	YW406B205-01	Holder
M62	YW377A984-01	Washer
M63	YW377A982-01	Washer
M64	YW377A983-01	Washer
M67	YW108A021-01	Cable Clamper
M76	YW355H288-01	Insulator
M77	YW355Z770-01	Plate
M78	YW124A058-01	Switch Cover
M93 ⚠	YW337H416-01	Lamp Caution Label
M94 ⚠	YW337H376-01	Caution Label
M95 ⚠	YW337H378-01	Safety Label

POWER BOARD

PCB1 (RTL)	YW860S039-02	Printed Circuit Board Ass'y
IC1	YWA1217LR	IC
IC3	YWA1221LR	IC
IC4	YWA1156LR	IC
Q1 ⚠	YW166C036-01	FET
Q2	YWA1126PC	Photo Coupler
D1 ⚠	YWA1233HL	Diode
D2	YW166D043-01	Diode
D3,4	YWA1364HD	Diode
D5	YWA1587HE	Diode
D6	YW166D046-01	Diode
D7	YWA1602HE	Diode
D8	YW166D046-01	Diode
D9	YW166D042-01	Diode
D11	YWA1508HE	Diode
D12	YW166D042-01	Diode
R4-8	YWA1661RS	Carbon 22K ohms 1W
R9	YWA1694RS	Carbon 33K ohms 2W
R10	YWA1141RM	Metal 1K ohms 1/4W
R11,12	YWA1241RM	Metal 20K ohms 1/4W
R13	YWA1247RM	Metal 24K ohms 1/4W
R14	YWA1232RM	Metal 15K ohms 1/4W
R15	YWA1644RS	Carbon 47 ohms 1W
R16	YWA1000RM	Metal 10 ohms 1/4W
R17	YWA1052RM	Metal 75 ohms 1/4W
R18	YWA1061RM	Metal 100 ohms 1/4W
R19	YWA1023RM	Metal 0.33 ohm 2W
R22,23	YWA1232RM	Metal 15K ohms 1/4W
R24	YWA1129RM	Metal 680 ohms 1/4W
R25	YWA1214RM	Metal 8.2K ohms 1/4W
R26	YWA1165RM	Metal 2.2K ohms 1/4W
R28	YWA1174RS	Carbon 100 ohms 2W
R29	YWA1114RM	Metal 470 ohms 1/4W
R31	YWA1798RS	Carbon 1K ohms 1W
R32	YW161T029-01	Carbon 1M ohms 1/2W
VR1	YWA2648RV	Variable Resistor 1K ohms
C1	YWA2064CF	Ceramic 0.22 µF
C2	YWA2063CF	Ceramic 0.1 µF
C3-5	YW160C016-01	Ceramic 1000 pF
C6	YW160A043-02	Electrolytic 120 µF 400V
C7	YW160B039-01	Plastic 0.1 µF
C8	YW160A042-03	Electrolytic 100 µF 35V
C9	YWA1094CC	Ceramic 0.1 µF 50V
C10	YWA1289CC	Ceramic 330 pF 50V
C11	YWA1107CC	Ceramic 1 µF 50V
C12	YW160A044-01	Electrolytic 22 µF 50V
C13	YWA1311CF	Plastic 0.01 µF 50V
C14	YWA1357CF	Plastic 0.022 µF 50V
C16	YWA1315CF	Plastic 2200 pF 50V
C18,19	YW160A042-04	Electrolytic 1200 µF 16V
C20	YWA1311CF	Plastic 0.01 µF 50V
C21	YWA1094CC	Ceramic 0.1 µF
C22	YW160A042-04	Electrolytic 1200 µF 16V
C23	YWA1094CC	Ceramic 0.1 µF
C26-28	YWA2324CA	Electrolytic 2200 µF 10V
C29	YW160A042-05	Electrolytic 560 µF 10V
C30,31	YWA1094CC	Ceramic 0.1 µF
C33	YW160A042-04	Electrolytic 1200 µF 16V
C34	YWA1094CC	Ceramic 0.1 µF
C35	YW160C016-02	Ceramic 330 pF
C36-44	YWA1094CC	Ceramic 0.1 µF
T1 ⚠	YW164A150-01	Power Transformer
L2,3	YW164E020-01	Coil 47 µH
L4	YW164E020-02	Coil 10 µH
L5,6	YW144B004-02	Coil
F1 ⚠	YW151A010-10	Current Fuse 2A 250V
F2-4 ⚠	YW151A005-07	Current Fuse 1.25A 250V
E1-6 ⚠	YWA170A058-01	Terminal
E7-10 ⚠	YWA1021JS	Fuse Holder
E12	YW337H417-01	Decal

REF. NO.	PART NO.	DESCRIPTION
E12	YW337H417-02	Decal
E13	YW337H417-01	Decal
VS3 ⚠	YW166F047-01	Varistor
TH1 ⚠	YW166H009-02	Thermistor
CN11	YW172L068-01	3-pin Connector
CN12	YW172L062-02	7-pin Connector
CN13	YWA1186JQ	2-pin Connector
CN14	YWA1877JQ	3-pin Connector
CN15	YW172L059-05	22-pin Connector
CN18	YW172L059-06	6-pin Connector
CN19	YWA1186JQ	2-pin Connector
TP1	YWA1335JZ	Test Pin
J1	YW161T028-01	Jumper
J2,3	YW161T028-02	Jumper
J4-7	YW161T028-01	Jumper
M73	YW157D016-02	Heatsink for IC3
M74	YW157D016-03	Heatsink for D12 and D9
M75	YW157D016-04	Heatsink for Q1

VIDEO BOARD

PCB2 (RTL)	YW860S036-02	Printed Circuit Board Ass'y
IC1	YWLM1881M	IC
IC2,3	YWLM6361M	IC
IC4	MC74HC4053F	IC
IC5	HD74HC123AF	IC
IC6	YWHD74LS07P	IC
IC7	HD74HC123AF	IC
IC8	YWMCHC74AE	IC
IC9	MC74HC14AF	IC
IC10	YWMCHC74AE	IC
IC11	YWMC74HC10F	IC
IC12	NJM4558M	IC
IC13	YWNJM7805FA	IC
IC14	NJM4558M	IC
IC15	YWNJM2268M	IC
IC16,17	YWNJM2248M	IC
IC18	YWNJM2268M	IC
IC20	YWNJM2249M	IC
IC21	YWNJM2248M	IC
IC22	HD74HC123AF	IC
IC24	YWLM1881M	IC
IC301	YWM51271FP	IC
IC302,303	YWUPC659AGS	IC
IC304	YWNJM7805FA	IC
IC305	EPM7064P3	CustomIC

REF. NO.	PART NO.	DESCRIPTION	
IC306	YWMC74VHC04M	IC	
IC307	SN74LS273NS	IC	
IC309-311	YWD42280GU30	IC	
IC312	YWUPC665GS	IC	
IC313-318	YWD42280GU30	IC	
IC319	YWUPC665GS	IC	
IC320	YWNJM2249M	IC	
IC321	MC74HC4052F	IC	
IC322	YWNJM2248M	IC	
IC323	SN74LS273NS	IC	
IC324	YWNJM7805FA	IC	
IC325	YWNJM2267M	IC	
Q1-6	2SD601A-QR	Transistor	
Q7	2SB709AQRSTW	Transistor	
Q8-22	2SD601A-QR	Transistor	
Q23	2SB709AQRSTW	Transistor	
Q24-26	2SD601A-QR	Transistor	
Q27-29	2SB709AQRSTW	Transistor	
Q30-36	2SD601A-QR	Transistor	
Q301,302	2SD601A-QR	Transistor	
Q303	2SB709AQRSTW	Transistor	
Q304	2SD601A-QR	Transistor	
Q305,306	2SB709AQRSTW	Transistor	
Q307	2SD601A-QR	Transistor	
Q308,309	2SB709AQRSTW	Transistor	
Q310-316	2SD601A-QR	Transistor	
Q317,318	2SB709AQRSTW	Transistor	
D1,2	MA152A	Diode	
D3	YWRLZ8.2TE11	Diode	
D4-6	MA152A	Diode	
D7,8	YWRLZ5.6TE11	Diode	
D9	YW1SR154400T	Diode	
D10	MA152A	Diode	
D11	YWRLZ7.5TE11	Diode	
D12	MA152A	Diode	
D301	MA152A	Diode	
R1	RRJ6GEYJ222V	Carbon	2.2K ohms 1/10W
R2	ERJ6GEYJ750	Carbon	75 ohms 1/10W
R3	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R4	ERJ6GEYJ273	Carbon	27K ohms 1/10W
R5	ERJ6GEYJ272	Carbon	2.7K ohms 1/10W
R6	RRJ6GEYJ561V	Carbon	560 ohms 1/10W
R7	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R8	RRJ6GEYJ153V	Carbon	15K ohms 1/10W
R9-11	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R12	ERJ6GEYJ750	Carbon	75 ohms 1/10W
R13	RRJ6GEYJ153V	Carbon	15K ohms 1/10W
R14	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R15	YF2116621JT	Carbon	620 ohms 1/10W
R16,17	ERJ6GEYJ202	Carbon	2K ohms 1/10W

REF. NO.	PART NO.	DESCRIPTION	
R18	ERJ6GEYJ152	Carbon	1.5K ohms 1/10W
R19	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R20	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R21	ERJ6GEYJ302	Carbon	3K ohms 1/10W
R22	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R23	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W
R24	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R25	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R26	ERJ6GEYJ272	Carbon	2.7K ohms 1/10W
R27	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R28	ERJ6GEYJ203	Carbon	20K ohms 1/10W
R29,30	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W
R31	ERJ6GEYJ203	Carbon	20K ohms 1/10W
R32	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R33	RRJ6GEYJ471V	Carbon	470 ohms 1/10W
R34	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W
R35	ERJ6GEYJ684	Carbon	680K ohms 1/10W
R36	RRJ6GEYJ561V	Carbon	560 ohms 1/10W
R37	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R38	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R39,40	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R42	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R43	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R44	ERJ6GEYJ622	Carbon	6.2K ohms 1/10W
R45	ERJ6GEYJ273	Carbon	27K ohms 1/10W
R46	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R47	ERJ6GEYJ242	Carbon	2.4K ohms 1/10W
R48	ERJ6GEYJ203	Carbon	20K ohms 1/10W
R49	ERJ6GEYJ433V	Carbon	43K ohms 1/10W
R50	RRJ6GEYJ153V	Carbon	15K ohms 1/10W
R51	RRJ6GEYJ331V	Carbon	330 ohms 1/10W
R52	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R53,54	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W
R55,56	ERJ6GEYJ473	Carbon	47K ohms 1/10W
R57	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W
R58	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R60	ERJ6GEYJ271	Carbon	270 ohms 1/10W
R62-65	ERJ6GEYJ473	Carbon	47K ohms 1/10W
R66	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R67,68	RRJ6GEYJ104V	Carbon	100K ohms 1/10W
R69,70	ERJ6GEYJ473	Carbon	47K ohms 1/10W
R71,72	RRJ6GEYJ104V	Carbon	100K ohms 1/10W
R73-75	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R76	ERJ6GEYJ750	Carbon	75 ohms 1/10W
R77	ERJ6GEYJ273	Carbon	27K ohms 1/10W
R78,82	RRJ6GEYJ153V	Carbon	15K ohms 1/10W
R79	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R80	ERJ6GEYJ750	Carbon	75 ohms 1/10W
R81	ERJ6GEYJ273	Carbon	27K ohms 1/10W
R82	RRJ6GEYJ153V	Carbon	15K ohms 1/10W

REF. NO.	PART NO.	DESCRIPTION	
R83	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R84	ERJ6GEYJ750	Carbon	75 ohms 1/10W
R85	ERJ6GEYJ273	Carbon	27K ohms 1/10W
R86	RRJ6GEYJ153V	Carbon	15K ohms 1/10W
R87	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R88	ERJ6GEYJ273	Carbon	27K ohms 1/10W
R89	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R90-93	ERJ6GEYJ750	Carbon	75 ohms 1/10W
R94	ERJ6GEYJ122	Carbon	1.2K ohms 1/10W
R95	YF2116621JT	Carbon	620 ohms 1/10W
R96	ERJ6GEYJ684	Carbon	680K ohms 1/10W
R97	ERJ6GEYJ433V	Carbon	43K ohms 1/10W
R98	ERJ6GEYJ301	Carbon	300 ohms 1/10W
R99,100	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R101	RRJ6GEYJ333V	Carbon	33K ohms 1/10W
R102	ERJ6GEYJ122	Carbon	1.2K ohms 1/10W
R103	RRJ6GEYJ471V	Carbon	470 ohms 1/10W
R104	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R105	ERJ6GEYJ271	Carbon	270 ohms 1/10W
R106	ERJ6GEYJ122	Carbon	1.2K ohms 1/10W
R108	ERJ6GEYJ302	Carbon	3K ohms 1/10W
R109	RRJ6GEYJ561V	Carbon	560 ohms 1/10W
R110	ERJ6GEYJ912	Carbon	9.1K ohms 1/10W
R111	RRJ6GEYJ333V	Carbon	33K ohms 1/10W
R112	RRJ6GEYJ471V	Carbon	470 ohms 1/10W
R113	ERJ6GEYJ470	Carbon	47 ohms 1/10W
R115	ERJ6GEYJ302	Carbon	3K ohms 1/10W
R116	RRJ6GEYJ561V	Carbon	560 ohms 1/10W
R117	RRJ6GEYJ471V	Carbon	470 ohms 1/10W
R118	RRJ6GEYJ333V	Carbon	33K ohms 1/10W
R119	RRJ6GEYJ471V	Carbon	470 ohms 1/10W
R120	ERJ6GEYJ682	Carbon	6.8K ohms 1/10W
R121	ERJ6GEYJ122	Carbon	1.2K ohms 1/10W
R122	RRJ6GEYJ153V	Carbon	15K ohms 1/10W
R123	ERJ6GEYJ433V	Carbon	43K ohms 1/10W
R124	RRJ6GEYJ153V	Carbon	15K ohms 1/10W
R125	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R126	ERJ6GEYJ473	Carbon	47K ohms 1/10W
R127	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R128	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W
R129	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R130	RRJ6GEYJ331V	Carbon	330ohms 1/10W
R131	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R132	ERJ6GEYJ122	Carbon	1.2K ohms 1/10W
R133	ERJ6GEYJ273	Carbon	27K ohms 1/10W
R134	ERJ6GEYJ301	Carbon	300 ohms 1/10W
R135	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R136	ERJ6GEYJ822	Carbon	8.2K ohms 1/10W
R137	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R138-141	RRJ6GEYJ471V	Carbon	470 ohms 1/10W

REF. NO.	PART NO.	DESCRIPTION	
R142	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R143	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R144	RRJ6GEYJ471V	Carbon	470 ohms 1/10W
R145	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R146	ERJ6GEYJ101	Carbon	100 ohms 1/10W
R201,204	ERJ6GEY0R00	Carbon	0 ohms 1/10W
R206	ERJ6GEY0R00	Carbon	0 ohms 1/10W
R301	YF2116754JT	Carbon	750K ohms 1/10W
R302	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R303	ERJ6GEYJ474	Carbon	470ohms 1/10W
R304	ERJ6GEYJ152	Carbon	1.5K ohms 1/10W
R305	ERJ6ENF51R0V	Metal	1 ohm 1/10W
R306	ERJ6ENF2400V	Metal	240 ohms 1/16W
R307	RRJ6GEYJ471V	Carbon	470 ohms 1/10W
R308	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W
R309	ERJ6GEYJ105	Carbon	1M ohms 1/10W
R310	RRJ6GEYJ222V	Carbon	2.2K ohms 1/10W
R311	ERJ6GEYJ823	Carbon	82K ohms 1/10W
R312-315	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R316	ERJ6GEYJ202	Carbon	2K ohms 1/10W
R317	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W
R318,319	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R320	ERJ6GEYJ752V	Carbon	7.5K ohms 1/10W
R322	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R323	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R324	RRJ6GEYJ221V	Carbon	220 ohms 1/10W
R325,326	ERJ6GEYJ101	Carbon	100 ohms 1/10W
R327,328	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R333	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R334	ERJ6GEYJ433V	Carbon	43K ohms 1/10W
R335	RRJ6GEYJ471V	Carbon	470 ohms 1/10W
R336	RRJ6GEYJ153V	Carbon	15K ohms 1/10W
R337	RRJ6GEYJ471V	Carbon	470 ohms 1/10W
R338	RRJ6GEYJ561V	Carbon	560 ohms 1/10W
R339	ERJ6GEYJ302	Carbon	3K ohms 1/10W
R340,341	ERJ6GEYJ105	Carbon	1M ohms 1/10W
R342	ERJ6GEYJ273	Carbon	27K ohms 1/10W
R343	RRJ6GEYJ153V	Carbon	15K ohms 1/10W
R344	RRJ6GEYJ561V	Carbon	560 ohms 1/10W
R345	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R346	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R347	ERJ6GEYJ272	Carbon	2.7K ohms 1/10W
R348	ERJ6GEYJ470	Carbon	47 ohms 1/10W
R349	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R353	ERJ6GEYJ433V	Carbon	43K ohms 1/10W
R354	RRJ6GEYJ153V	Carbon	15K ohms 1/10W
R355	RRJ6GEYJ471V	Carbon	470 ohms 1/10W
R356	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R357	ERJ6GEYJ433V	Carbon	43K ohms 1/10W
R358	RRJ6GEYJ153V	Carbon	15K ohms 1/10W

REF. NO.	PART NO.	DESCRIPTION	
R359,360	RRJ6GEYJ471V	Carbon	470 ohms 1/10W
R361	ERJ6GEYJ302	Carbon	3K ohms 1/10W
R362	ERJ6GEYJ822	Carbon	8.2K ohms 1/10W
R363	ERJ6GEYJ472	Carbon	4.7K ohms 1/10W
R364	ERJ6GEYJ433V	Carbon	43K ohms 1/10W
R365	ERJ6GEYJ822	Carbon	8.2K ohms 1/10W
R367	ERJ6GEY0R00	Carbon	0 ohm 1/10W
R501,502	ERJ6GEYJ100	Carbon	10 ohms 1/10W
R503-526	ERJ6GEY0R00	Carbon	0 ohm 1/10W
R527	ERJ6GEYJ101	Carbon	100 ohms 1/10W
R528	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R529,530	ERJ6GEYJ272	Carbon	2.7K ohms 1/10W
R951-953	RRJ6GEYJ471V	Carbon	470 ohms 1/10W
R954,955	RRJ6GEYJ221V	Carbon	220 ohms 1/10W
VR1	YWRH03A3A12X	Variable Resistor	100 ohms
VR2	RH03A3AJ4X	Potentiometer	22K ohms
VR3	RH03A3AJ3X	Potentiometer	2.2K ohms
VR4	RH03A3AS3X	Variable Resistor	4.7K ohms
VR5	RH03A3AJ3X	Potentiometer	2.2K ohms
VR6	RH03A3AJ4X	Potentiometer	22K ohms
VR7	RH03A3AS3X	Variable Resistor	4.7K ohms
VR8	YWRH03A3AS2X	Variable Resistor	470 ohms
VR9	RH03A3AS3X	Variable Resistor	4.7K ohms
VR10	RH03A3AJ3X	Potentiometer	2.2K ohms
VR13	YWRH03A3AJ2X	Variable Resistor	220 ohms
VR14	YWRH03A3A12X	Variable Resistor	100 ohms
VR100	RK10J11E5KA	Variable Resistor	5K ohms
VR301	RH03A3AS4X	Variable Resistor	47K ohms
VR303	RH03A3AS3X	Variable Resistor	4.7K ohms
VR304	RH03A3AJ3X	Potentiometer	2.2K ohms
VR305,307	YWRH03A3A13X	Variable Resistor	1K ohms
VR308	RH03A3AJ3X	Potentiometer	2.2K ohms
C1,2	ECEA1CKA100	Electrolytic	10 µF 16V
C3,4	ECEA1CKA470	Electrolytic	47 µF 16V
C5	ECEA1CKA100	Electrolytic	10 µF 16V
C6	YF400561CHJT	Ceramic	560 pF
C7-9	ECEA1CKA100	Electrolytic	10 µF 16V
C10	MCUV1H103KBN	Ceramic	0.01 µF
C11,12	ECQB1H104JF	Plastic	0.1 µF 50V
C13	ECEA1CKA100	Electrolytic	10 µF 16V
C14,15	ECQB1H104JF	Plastic	0.1 µF 50V
C16	YF400104FZT	Ceramic	0.1 µF
C17	ECQB1H102JF	Plastic	1000 pF 50V
C18	ECQB1H473JZ	Plastic	0.047 µF 50V
C19	MCUV1H103KBN	Ceramic	0.01 µF
C20	ECEA1CKA100	Electrolytic	10 µF 16V
C21	UC232A0470FT	Mica Capacitor	47 µF
C22	ECEA1CKA470	Electrolytic	47 µF 16V
C23	ECEA1EKA470	Electrolytic	47 µF 25V
C24	ECQB1H104JF	Plastic	0.1 µF 50V

REF. NO.	PART NO.	DESCRIPTION	
C25	ECEA1CKA100	Electrolytic	10 µF 16V
C26	ECQB1H102JF	Plastic	1000 pF 50V
C27	ECQB1H332JZ	Plastic	3300 pF 50V
C28	YF400104FZT	Ceramic	0.1 µF 50V
C29-31	MCUV1H103KBN	Ceramic	0.01 µF
C32	ECEA1CKA470	Electrolytic	47 µF 16V
C33	ECEA1HKN010B	Electrolytic	1 µF 50V
C34	ECQB1H102JF	Plastic	1000 pF 50V
C35	ECEA1CU471	Electrolytic	470UF 16V
C36,37	ECEA1CKA220	Electrolytic	22 µF 16V
C38	ECEA1CKA470	Electrolytic	47 µF 16V
C39	YF400104FZT	Ceramic	0.1 µF 50V
C40	ECEA1EKA470	Electrolytic	47 µF 25V
C41	ECEA1HKA010	Electrolytic	1 µF 50V
C42	ECEA1CKA220	Electrolytic	22 µF 16V
C43	ECEA1EKA470	Electrolytic	47 µF 25V
C44,45	ECEA1CKA470	Electrolytic	47 µF 16V
C47	MCUV1H330JCN	Ceramic	33 pF
C48	MCUV1H103KBN	Ceramic	0.01 µF
C52	ECEA1HKN010B	Electrolytic	1 µF 50V
C53	ECEA1HKA010	Electrolytic	1 µF 50V
C54	ECEA1HKN010B	Electrolytic	1 µF 50V
C55	ECEA1HKA010	Electrolytic	1 µF 50V
C56	ECEA1CKA100	Electrolytic	10 µF 16V
C57,58	MCUV1H220JCN	Ceramic	22 pF
C59	MCUV1H103KBN	Ceramic	0.01 µF
C60	ECQB1H102JF	Plastic	1000 pF 50V
C61	ECEA1HKA010	Electrolytic	1 µF 50V
C62	ECEA1EKA470	Electrolytic	47 µF 25V
C63,64	ECEA1HKA010	Electrolytic	1 µF 50V
C65	ECEA1EKA470	Electrolytic	47 µF 25V
C66	ECEA1CKA100	Electrolytic	10 µF 16V
C67-69	ECEA1HKA010	Electrolytic	1 µF 50V
C70	ECEA1HKN010B	Electrolytic	1 µF 50V
C71	MCUV1H330JCN	Ceramic	33 pF
C72	ECEA1CKA470	Electrolytic	47 µF 16V
C73	ECEA1CKA100	Electrolytic	10 µF 16V
C74	ECEA1CKA470	Electrolytic	47 µF 16V
C75	ECEA1HKA010	Electrolytic	1 µF 50V
C76	YF400561CHJT	Ceramic	560 pF
C77	MCUV1H330JCN	Ceramic	33 pF
C78	YF400100CHDT	Ceramic	10 pF
C79	MCUV1H103KBN	Ceramic	0.01 µF
C80,81	ECEA1CU471	Electrolytic	470 µF 16V
C82	ECEA1CKA220	Electrolytic	22 µF 16V
C83	ECEA1CU471	Electrolytic	470 µF 16V
C84-86	ECEA1CKA220	Electrolytic	22 µF 16V
C87	YW400103CHJT	Ceramic	0.01 µF
C88	MCUV1H103KBN	Ceramic	0.01 µF
C89	YF400470CHJT	Ceramic	47 pF

REF. NO.	PART NO.	DESCRIPTION	
C90-94	MCUV1H103KBN	Ceramic	0.01 µF
C95	ECEA1CKA470	Electrolytic	47 µF 16V
C96	ECQB1H332JZ	Plastic	3300 pF 50V
C97	ECEA1CKA470	Electrolytic	47 µF 16V
C98	ECEA1HKN010B	Electrolytic	1 µF 50V
C99,100	ECEA1CKA100	Electrolytic	10 µF 16V
C101,102	ECQB1H104JF	Plastic	0.1 µF 50V
C103,104	MCUV1H103KBN	Ceramic	0.01 µF
C105,107	YF400104FZT	Ceramic	0.1 µF
C108	MCUV1H103KBN	Ceramic	0.01 µF
C113	ECEA1CKA220	Electrolytic	22 µF 16V
C114	ECEA1EU471	Electrolytic	470 µF 25V
C115	ECQB1H102JF	Plastic	1000 pF 50V
C116	ECEA1EKA470	Electrolytic	47 µF 25V
C117,118	ECEA1HKA010	Electrolytic	1 µF 50V
C119	YW400050CHJT	Ceramic	5 pF
C120	ECEA1EKA470	Electrolytic	47 µF 25V
C121	YF400104FZT	Ceramic	0.1 µF
C122	ECEA1CKA470	Electrolytic	47 µF 16V
C151-156	YF400104FZT	Ceramic	0.1 µF
C158,159	YF400104FZT	Ceramic	0.1 µF
C161	MCUV1H103KBN	Ceramic	0.01 µF
C164,165	YF400104FZT	Ceramic	0.1 µF
C167,168	YF400104FZT	Ceramic	0.1 µF
C169	ECQB1H104JF	Plastic	0.1 µF 50V
C170	MCUV1H101JCN	Ceramic	100 pF
C301	ECQB1H102JF	Plastic	1000 pF 50V
C302	ECQB1H103JZ	Plastic	0.01 µF 50V
C303	ECEA1HKA010	Electrolytic	1 µF 50V
C304	ECEA1CKA470	Electrolytic	47 µF 16V
C305,306	ECQB1H103JZ	Plastic	0.01 µF 50V
C307	ECEA1HKA010	Electrolytic	1 µF 50V
C309	MCUV1H103KBN	Ceramic	0.01 µF
C310	YF400100CHDT	Ceramic	10 pF
C311	ECQB1H103JZ	Plastic	0.01 µF 50V
C312	ECEA1HKA010	Electrolytic	1 µF 50V
C313	YW400474FZ	Ceramic	0.47 µF
C314,315	ECQB1H473JZ	Plastic	0.047 µF 50V
C316	ECEA1CKA101	Electrolytic	100 µF 16V
C317	MCUV1H103KBN	Ceramic	0.01 µF
C318	ECEA1CKA100	Electrolytic	10 µF 16V
C319	MCUV1H101JCN	Ceramic	100 pF
C320	ECQB1H103JZ	Plastic	0.01 µF 50V
C321	YF400104FZT	Ceramic	0.1 µF
C322	ECEA1CKA100	Electrolytic	10 µF 16V
C323,324	YF400104FZT	Ceramic	0.1 µF
C325	ECEA1HKA2R2	Electrolytic	2.2 µF 50V
C326-328	YF400104FZT	Ceramic	0.1 µF
C329	MCUV1H101JCN	Ceramic	100 pF
C330	ECEA1CKA100	Electrolytic	10 µF 16V

REF. NO.	PART NO.	DESCRIPTION	
C331	MCUV1H101JCN	Ceramic	100 pF
C332	YF400104FZT	Ceramic	0.1 µF
C333	ECEA1CKA470	Electrolytic	47 µF 16V
C334	YF400104FZT	Ceramic	0.1 µF
C335	ECEA1HN100S	Electrolytic	10 µF 50V
C336	YF400104FZT	Ceramic	0.1 µF
C337	MCUV1H101JCN	Ceramic	100 pF
C338	MCUV1H101JCN	Ceramic	100 pF
C339	YF400104FZT	Ceramic	0.1 µF
CN1	YWB8BZR	8-pin Connector	
CN2	YWILG03PS3T2	3-pin Connector	
CN3	YW06FEBTVKN	6-pin Connector	
CN4	YW22FEBTVKN	22-pin Connector	
CN5	YW26FEBTVKN	26-pin Connector	
CN6	YFILG2PS3T2E	2-pin Connector	
CN15	YWM1823K	Connector	
CN306	YWREH032TD10	Connector	
CN307	YWILG4PS3T2E	4-pin Connector	
JK1	YWLJ23063010	Jack	
JK4	YWT6537AADE	Jack	
P306	YWJM2BK61	Plug	
E2-4	YWM1866A	Terminal	
E6-8	YWM1866A	Terminal	
TP1-8	YWRCT2125TPV	Test- Pin	
TP13,21	YWRCT2125TPV	Test- Pin	
TP22,25	YWRCT2125TPV	Test- Pin	
TP300-304	YWRCT2125TPV	Test- Pin	
TP306-309	YWRCT2125TPV	Test- Pin	
TP311-314	YWRCT2125TPV	Test- Pin	

AV INPUT BOARD

PCB3 (RTL)	YW860S040-01	Printed Circuit Board Ass'y
CN601	YW172L059-08	26-pin Connector
CN602	YW172L071-01	6-pin Jack

REF. NO.	PART NO.	DESCRIPTION	

RGB BOARD

PCB4 (RTL)	YW860S037-02	Printed Circuit Board Ass'y	
IC1	YWCXA1585Q	IC	
IC2	MC74HC14AF	IC	
IC3,4	YWNJM2267M	IC	
R1	ERJ6ENF2702V	Metal	27K ohms
R2	ERJ6GEYJ184V	Carbon	180K ohms 1/10W
R3-5	ERJ6GEYJ750	Carbon	75 ohms 1/10W
R6,7	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R8	YF2116514GT	Carbon	510K ohms 1/10W
R9	ERJ6GEYJ362	Carbon	3.6K ohms 1/10W
R10	ERJ6GEYJ202	Carbon	2K ohms 1/10W
R11	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R12	ERJ6GEYJ362	Carbon	3.6K ohms 1/10W
R13	ERJ6GEYJ152	Carbon	1.5K ohms 1/10W
R14	RRJ6GEYJ104V	Carbon	100K ohms 1/10W
R15	ERJ6GEYJ182	Carbon	1.8K ohms 1/10W
R16	ERJ6GEYJ392	Carbon	3.9K ohms 1/10W
R17	ERJ6ENF1501V	Metal	1.5K ohms 1/10W
R18,19	ERJ6GEYJ391	Carbon	390 ohms 1/10W
R20	ERJ6GEYJ362	Carbon	3.6K ohms 1/10W
R21	ERJ6GEYJ203	Carbon	20K ohms 1/10W
R22	ERJ6GEYJ912	Carbon	9.1K ohms 1/10W
R23	ERJ6GEYJ750	Carbon	75 ohms 1/10W
R24,25	ERJ6GEYJ202	Carbon	2K ohms 1/10W
R26	ERJ6GEYJ302	Carbon	3K ohms 1/10W
R27	ERJ6GEYJ122	Carbon	1.2K ohms 1/10W
R28,30	ERJ6GEY0R00	Carbon	0 ohm 1/10W
VR1	RH03A3A14X	Potentiometer	10K ohms
VR2	YWRH03A3AS2X	Variable Resistor	470 ohms
VR3	RH03A3AS4X	Variable Resistor	47K ohms
VR4	RH03A3AS3X	Variable Resistor	4.7K ohms
VR5	RH03A3A14X	Potentiometer	10K ohms
C1,2	ECEA1CKA220	Electrolytic	22 µF 16V
C3	ECEA1CU471	Electrolytic	470 µF 16V
C4	ECEA1CKA220	Electrolytic	22 µF 16V
C5	ECEA1CU471	Electrolytic	470 µF 16V
C6	ECEA1CKA220	Electrolytic	22 µF 16V
C7	ECEA1CU471	Electrolytic	470 µF 16V
C8	ECEA1CKA220	Electrolytic	22 µF 16V
C9	ECEA1CU471	Electrolytic	470 µF 16V
C10,11	ECEA1CKA220	Electrolytic	22 µF 16V
C12	MCUV1H103KBN	Ceramic	0.01 µF
C13	ECEA1HKA010	Electrolytic	1 µF 50V
C14	ECQB1H103JZ	Plastic	0.01 µF 50V
C15	ECEA1HKN010B	Electrolytic	1 µF 50V

REF. NO.	PART NO.	DESCRIPTION	
C16	YF400300CHJT	Ceramic	30 pF
C17	ECQB1H104JF	Plastic	0.1 µF 50V
C18	YW400103CHJT	Ceramic	0.01 µF 50V
C19	ECQB1H103JZ	Plastic	0.01 µF 50V
C20,21	ECEA1EKA4R7	Electrolytic	4.7 µF 25V
C22	ECEA1HKA010	Electrolytic	1 µF 50V
C23-25	ECQB1H473JZ	Plastic	0.047 µF 50V
C26	ECQB1H103JZ	Plastic	0.01 µF 50V
C27	ECQV1H474JZ	Plastic	0.47 µF 50V
C28	ECEA1CKA470	Electrolytic	47 µF 16V
C29	MCUV1H103KBN	Ceramic	0.01 µF
C30	YF400100CHDT	Ceramic	10 pF
C31-33	ECEA1HN100S	Electrolytic	10 µF 50V
C35	YF400104FZT	Ceramic	0.1 µF
L1	EL05RA8R2K3	Coil	8.2 µF
L2	BTKANS18267	Coil	
L3	YWADLCP144A	Delay Line	
X1	KD044336BAZ	Crystal Oscillator	
CN1	YW06FEBTVKN	6-pin Connector	
CN2	YWP2297A	BNC Connector	
E1	YWM1866A	Terminal	
TP1,3	YWRCT2125TPV	Test-pin	
TP4-6	YWRCT2125TPV	Test-pin	
TP11	YWRCT2125TPV	Test-pin	

SWITCH BOARD

PCB5 (RTL)	YW860S041-01	Printed Circuit Board Ass'y	
SW1-3	YW154A114-01	Switch	
CN1	YW172L059-07	6-pin Connector	
M70	YW124A057-01	Switch Cover	

ARM LIGHT BOARD

PCB6 (RTL)	YW860S042-01	Printed Circuit Board Ass'y	
Q1	YW166B028-01	Transistor	
R1	YWA1614RS	Carbon	680 ohms 2W
R2	YWA1197RS	Carbon	2 ohms 1W
C1,2	YW160A049-03	Electrolytic	680 µF 16V
C3	YWA1531CF	Film	1 µF
C4	YW160B039-03	Film	0.33 µF
C5	YW160B043-01	Film	3300 pF
T1	YW164A151-01	Transformer	
CN1	YW172B174-01	Socket	

REF. NO.	PART NO.	DESCRIPTION	
CN101	YWA1186JQ	2-pin Connector	
E1	YW173B025-04	Cable Ass'y	
E2	YW173B025-05	Cable Ass'y	
E3	YW173B025-04	Cable Ass'y	
E4	YW173B025-05	Cable Ass'y	

INVERTER BOARD

PCB7 (RTL)	YW860S043-01	Printed Circuit Board Ass'y	
Q1,2	YWA1550HQ	Transistor	
R1,2	YW161U139-01	Metal	3.9K ohms 1/4W
C1	YW160A042-03	Electrolytic	100 µF 35V
C2	YW160B030-10	Film	0.068 µF 250V
C3	YW160C019-01	Cermic	22 pF
T1	YW164A152-01	Transformer	
L1	YW164E029-01	Coil	100 µH
CN1	YWA1186JQ	2-pin Connector	
CN2	YWA1877JQ	3-pin Connector	

ZOOM SWITCH BOARD

PCB8 (RTL)	YW860S033-01	Printed Circuit Board Ass'y	
IC1	YWA1223LM	IC	
Q1,2	YW166A011-04	Transistor	
D1	YWA1472HE	Diode	
D2	YW166D046-01	Diode	
D10	YWA1047VD	LED	
R1	YWA1061RM	Metal	100 ohms 1/4W
R2	YWA1340RM	Metal	1M ohms 1/4W
R3	YWA1141RM	Metal	1K ohms 1/4W
R4	YWA1340RM	Metal	1M ohms 1/4W
R5,6	YWA1141RM	Metal	1K ohms 1/4W
R7	YWA1252RM	Metal	30K ohms 1/4W
R9	YWA1141RM	Metal	1K ohms 1/4W
R10	YWA1202RM	Metal	6.2K ohms 1/4W
R12	YWA1165RM	Metal	2.2K ohms 1/4W
R14	YWA1175RM	Metal	3K ohms 1/4W
R15	YWA1114RM	Metal	470 ohms 1/4W
R16	YWA1052RM	Metal	75 ohms 1/4W
R17	YWA1232RM	Metal	15K ohms 1/4W
C1	YWA1240CA	Electrolytic	10 µF 35V

REF. NO.	PART NO.	DESCRIPTION
C2	YWA1123CC	Cermic 1 µF
C3	YWA1240CA	Electrolytic 10 µF 35V
C4	YWA1123CC	Cermic 1 µF
SW1-3	YW154A114-01	Swich
JP1	YW161T028-03	Jumper
CN1	YW172L027-22	27-pin Connector
CN2	YW172L058-04	8-pin Connector
CN3	YW172L058-03	6-pin Connector
E1,2	YW170A058-01	Electrode
E3	YW104S029-01	LED Spacer for D10
M65	YW124A057-02	Switch Cover
ACCESSORY PARTS/PACKAGING PARTS		
E102 ⚠	YW150A036-01	AC Power Cable for WE-MV180/A
	YW150A037-01	AC Power Cable for WE-MV180/B
	YW150A035-01	AC Power Cable for WE-MV180/G
M80	YW334G004-01	Packing
M81	YW337H387-01	Button Address Label
M82 ⚠	YW860B301-20	Operating Instructions
M83	YW327A034-01	Polyethylene Bag
M84	YW117G055-01	Band
M85	YW355H274	Protection Sheet
M86	YW327A035-01	Polyethylene Bag
M87	YW116A006-01	Packing
M88	YW108A024-01	Band
M89	YW327A036-01	Polyethylene Bag
M90	YW324D103-01	Packaging Case

REF. NO.	PART NO.	DESCRIPTION

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